Transportation Library

DECEMBER 14, 1940

Railway Age

Founded in 1856

TRANSPORTATION LIBRARY

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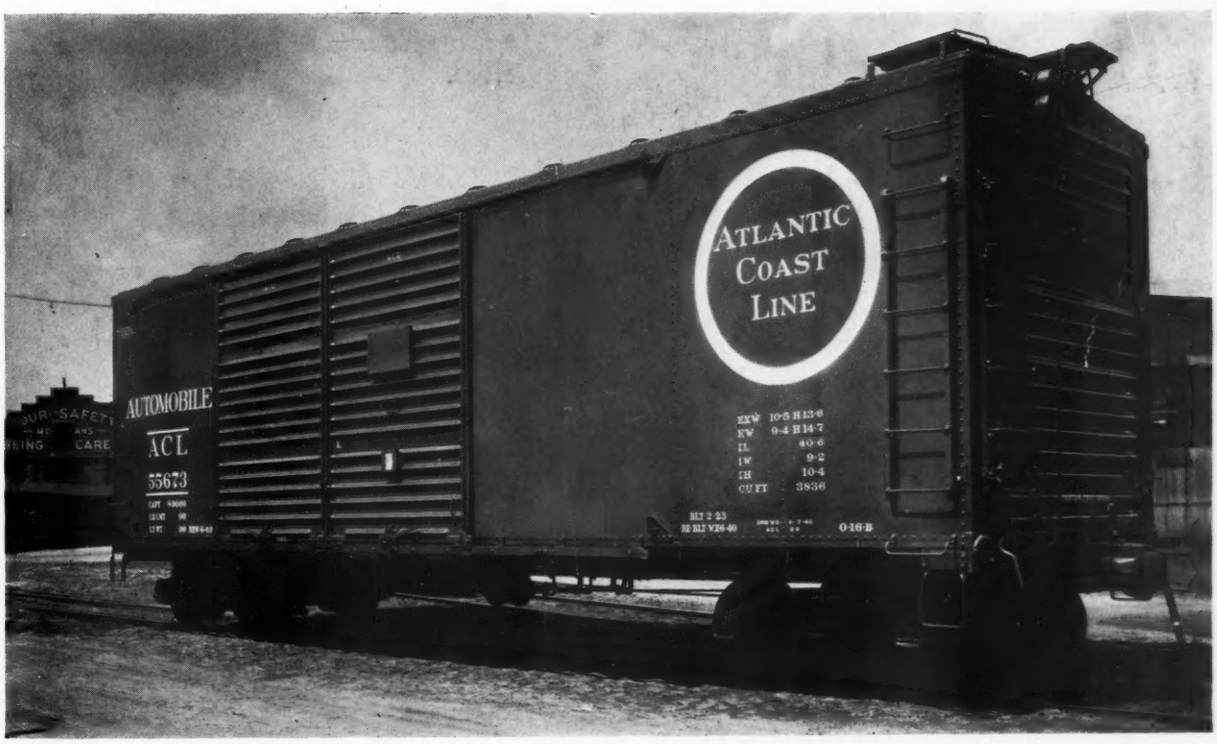
MODERNIZATION

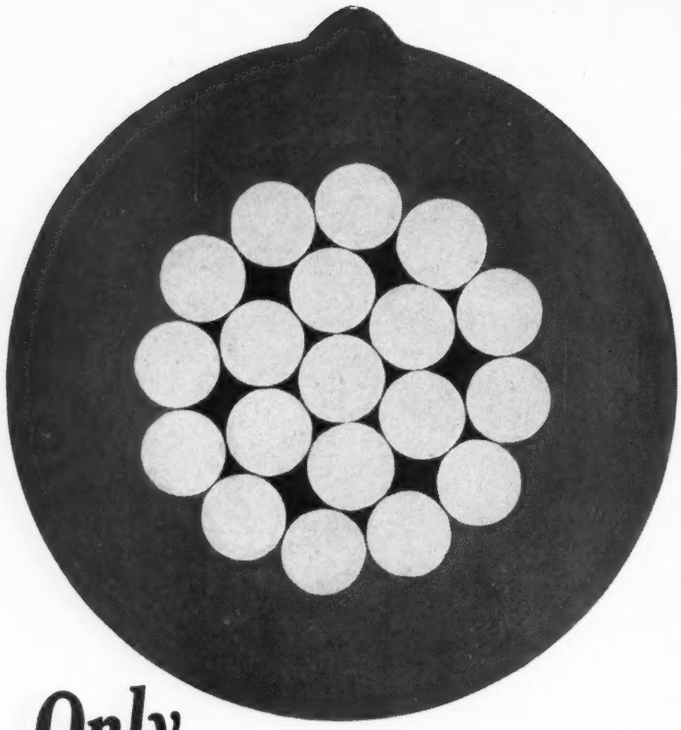
WITH



YOUNGSTOWN STEEL SIDES

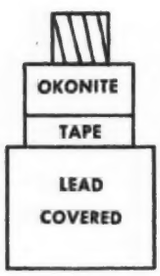
YOUNGSTOWN STEEL DOOR COMPANY

leveland Chicago New York Youngstown

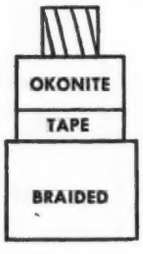


Only TIME CAN TELL the True Value of OKONITE INSULATION

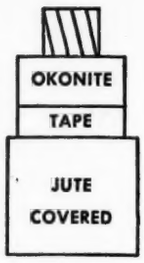
43 YEARS AFTER INSTALLATION as building wire in New Jersey, plain, unprotected Okonite showed 659 lbs. tensile strength.



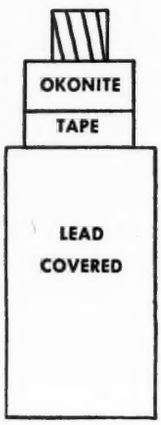
32 YEARS AFTER INSTALLATION as communication cables in Honolulu, lead covered Okonite still had a tensile strength of 1,450 lbs. and a 10.7″ elongation (better than guaranteed standard for new wire).



25 YEARS AFTER INSTALLATION as Railroad Signal Cable in Pennsylvania, tape and braid finished Okonite tested 825 lbs. tensile and 5.5″ elongation.



24 YEARS AFTER INSTALLATION as railroad jumper cable in New York, tape and jute-covered Okonite tested 1,051 lbs. tensile and 10.5″ elongation.



16 YEARS AFTER INSTALLATION as 6,600 volt power cable in ducts in Connecticut, lead-covered Okonite had a tensile strength of 1,245 lbs. and elongation of 9.9″ (equal to standards for new Okonite and superior to A.S.T.M. Grade A requirements for new wire).

Note: *After tests, the cable was returned to service and now — 10 years later is still delivering power.*

16 YEARS AFTER INSTALLATION in Hawaii as signal wire in trunking under adverse tropical conditions, braid covered Okonite showed a tensile strength of 1,048 lbs. and an elongation of 9.5″.

No tests so far developed can predict the long, trouble free life which the Okonite strip-insulating process builds into Okonite rubber-insulated wires and cables. That is why we say, "Okonite Quality Cannot be Written into a Specification." The Okonite Co., Passaic, N. J., offices in principal cities.

OKONITE

INSULATED WIRES AND CABLES

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RAILWAY AGE

A War for Socialism Against Fascism?

Commentators on the astounding collapse of France, and its consequent easy subjugation by Germany, disagree regarding who was responsible for the collapse; but they all agree on one fact of vital importance and significance—viz, that it was due to class differences and divisions between the French people. Conservative commentators assert it occurred because the socialists and communists were more concerned about destroying the "privileges" of the upper and middle classes of France than about beating Hitler. Likewise, radical commentators assert it occurred because the upper and middle classes were more concerned about defending their "privileges"—i. e., their property and incomes—from the attacks of the French socialists and communists than about defending their country against Hitler. Both interpretations apparently are correct. In other words, apparently it was because the French people were sharply divided by antagonistic and incompatible economic ambitions into two bitterly hostile and warring classes that Hitler was able so easily and swiftly to subjugate them.

Effect of Income on Political Opinion

This plainly affords the American people something to think about. As this paper pointed out before the recent national election, the Gallup polls were then indicating that apparently our people were more sharply dividing politically into economic classes than ever before; and how they actually did divide on election day is strikingly evidenced by a statement Dr. Gallup published this week. According to this statement, Mr. Willkie received the votes of 72 per cent of persons with incomes of $50 a week or more; of 47 per cent with incomes from $20 to $50; of only 31 per cent with incomes less than $20 a week; and of only 20 per cent of those deriving their incomes from relief, W. P. A. and old-age pensions. Why this "increasing 'stratification' of the voting on an income basis," as Dr. Gallup describes it?

It is plain enough that a large majority of the 27 million who supported the candidates of the winning party did so because **they wanted a government that would try to advance less-than-average incomes by curtailing or reducing more-than-average incomes.** On the other hand, a great majority of the 22 million who supported the candidates of the losing party wanted a government which would try to increase all incomes—but which, in any event **would not try to limit or reduce their higher-than-average incomes in an effort to raise other people's less-than-average incomes.** In other words, the Gallup polls indicate an increasing division of the American people very similar in character and cause to that to which both conservatives and radicals attribute the downfall of France.

Will this division of the people, then, seriously hinder execution of the preparedness program upon which the United States has embarked as it hindered preparedness in France? Of much more importance, will it make our military efforts largely ineffective if we actually become involved in war, as it made those of France? Unlike the French, the British seem to be presenting a united front to their foe. But, surprisingly enough, some of their spokesmen in the United States are engaged in advertising to the American people that there are similar class divisions in their country, and that, in fact, Great Britain is heading rapidly for permanent socialism. Some of them even go so far as to contend that the only way Great Britain can win the war is by not only going socialist herself, but by stirring up socialist revolutions in all the countries of Europe now dominated by the Nazis and Fascists, **and throughout the world, including the United States.**

Is Socialism to Be Britain's Goal?

The most frank and loquacious of these British radicals in the United States is Harold J. Laski. Professor Laski, who, it should not be overlooked, is a power in the British Labor party, makes his position abundantly clear in a recent book entitled "Where Do We Go from Here?"* Briefly, his argument is that England cannot win this war without the wholehearted support of her working people, and that the only way to assure their wholehearted support is to "end eco-

* Published by Viking Press, New York.

nomic and social privilege as the price of victory"—the word "privilege" as he uses it meaning **any form of economic activity carried on under private, as opposed to socialized, ownership.** The British government, if it is to win the war, he declares, must "take large steps toward the transformation of the capitalist basis of its economic foundations to a socialist basis"—the implication being that if "capitalist democracy" doesn't give in to socialism, the British people probably won't summon the endurance necessary for a protracted struggle.

Nor is this all. Professor Laski says that, "in effect, **the purpose of this war is the revolution to which British success will give rise.**" That is, he wants to hold out a socialized Britain as bait to the common people of the lands under Nazi domination, and to promise them that a victorious Britain will not let their "privileged classes" come back into power at the end of the war. Victorious Britain, in short, if he has his way, will kick Hitler's so-called "National Socialism" out of Europe only to substitute for it the Simon-pure Marxist socialism advocated by himself and all other avowed socialists and communists throughout the world, but as yet never actually tried anywhere excepting in Russia.

Our Friendship For Britain Doesn't Include Her Reds

Laski's voice is not the only British one preaching the same doctrine in this country. H. G. Wells is traipsing around America speaking in behalf of socialism. J. G. Priestley, the novelist, has made propaganda speeches by short wave radio from London carrying dark hints that his own views on socializing Britain are not far from those of Laski. And Ernest Bevin, leader of the British Labor party, a thoroughgoing socialist, now a member of the war cabinet, and frequently mentioned as probable successor one day to Winston Churchill as Prime Minister, has been reported frequently of late as clamoring for changes in the direction of socialization and as saying that it will be "no good going to the teeming millions of Europe and talking merely Gladstonian liberty." Furthermore, in the December 2 issue of "Life" magazine is an excerpt from a book, "War by Revolution," by Francis Williams, another Englishman, who advocates licking Hitler by stirring up proletarian revolutions in Nazi-dominated countries. And finally, Joseph B. Kennedy, our recently-resigned ambassador to Great Britain, a few weeks ago was quoted by a Boston paper as having predicted in an interview that socialism was going to be the result of the war in England, and as being unalterably opposed to our becoming involved in it. Mr. Kennedy later repudiated this interview, but, seemingly, more because he had been quoted without permission than because he had been quoted erroneously.

The foregoing regarding the discussion by Britishers of what should be, or actually is, British policy during the war, and what it should be after the war if Britain wins, raises some very important questions for the people of the United States to consider. The British have the sympathy of an overwhelming majority of all classes of Americans, who support our government's policy of giving Great Britain all the aid possible "short of war." Some Americans favor this country actually entering the war on Britain's side; and predictions are constantly emanating from Washington that we shall do so. But this overwhelming sympathy and support for Britain in this country has been predicated upon the assumption that the British are fighting, and will continue to fight, for maintenance of the same kind of political and **economic** institutions that we have had in the United States—i. e., (1) democracy in government and (2) free private enterprise in production and commerce.

Suppose, now, it should develop that, under the leadership of men such as Laski and Bevin, the British have been going more and more socialist **in** both their domestic and foreign politics until finally they are actually fighting for **socialism;** that, win, lose or draw in the war, socialism will, as Ambassador Kennedy predicts, prevail in Great Britain after the war ends; and that if Britain wins it will cause socialism to be established throughout Europe and, if possible, throughout the world. Would that change the attitude of numerous Americans toward aid to Britain? It undoubtedly would; for the more than 22 million Americans who supported Willkie on November 5 last voted as they did **principally because they were opposed to socialistic policies and in favor of policies helpful to private enterprise.** That 22 million voters represented an overwhelming preponderance of the intelligence, ability, self-reliance, thrift and property of the United States; and if they should become convinced that Great Britain is going socialistic to win the war, and would remain a socialist state after it, they would soon decide it might make little difference to them whether the war was won by socialistic Great Britain or by Nazi Germany and Fascist Italy.

Russia a Poor Argument for Socialism

It may be said that Great Britain would still represent democracy, while Germany and Italy represent dictatorship, and that we should help save democracy. But how do we know that a socialistic Great Britain would still represent democracy? The only country in the world which has actually tried socialism is Russia; and socialism was established and has been maintained there by a dictatorship—a so-called "dictatorship of the proletariat," it is true, but a dictatorship so ruthless, tyrannical and murderous as to make those of Germany and Italy seem kindly and benevolent by comparison. Furthermore, the 22 million who voted for Willkie did not vote merely or even mainly for the maintenance of democracy, but as we have already indicated, mainly **against** policies tending toward socialism, and **for** policies tending toward rehabilitation and maintenance of the economic system of free private enterprise.

They believe that (1) political democracy cannot be maintained excepting on the foundation of an economic system of free private enterprise; and that, anyway, (2) political democracy would hardly be worth having on an economic foundation of socialism. So the more real or supposed evidence is cited that Great Britain is going socialistic and trying to spread socialism through the world the less reason about one-half, and probably more than one-half, of the voters of this country will believe there is why we should go to the assistance of Great Britain. Therefore, it would appear that Britishers who are predicting Great Britain will go completely socialistic and advocating her taking leadership of a movement to spread socialism through-

The Fact-and-Figure Route to More Traffic

Truck traffic continues to increase at the expense of railroad traffic. Reports of motor carriers to the I. C. C. show that the 1937 "recession" caused their tonnage to shrink 9.2 per cent, but it increased 23.9 per cent in 1939; 20.6 per cent in the first quarter 1940; 16.7 per cent in the second quarter; and the truckers' own figures show they gained 18.7 per cent in July, 11.1 per cent in August and 16.4 per cent in October. September this year, when they showed a decrease of 1.3 per cent, is the only period in recent years when they have shown a loss. This is probably due to the heavy contra-seasonal movement in September last year because of the outbreak of the war in Europe.

Railroad merchandise decreased 16.2 per cent in 1938, recovered only 4 per cent in 1939, lost 2.26 per cent for the first 10 months this year. That the degree of loss is growing may be gathered from the fact that the loss was 3.57 per cent for the four months ending October 31.

Likewise, the trucks are giving more attention to carload traffic. Contract trucking, reported separately for the first time in the second quarter this year, showed an increase of 28.3 per cent, while the merchandise haulers' traffic increased only 12.6 per cent.

It is obvious from these figures on contract trucking that the railroads cannot safely rest on their oars, even after they have readjusted their merchandise rates to a truck-competitive basis, because, as a rule, contract carriers do not handle merchandise. The increase in contract trucking must represent almost entirely inroads that are being made into carload traffic. The railroads cannot safely consider their truck-competitive problem to be only a matter of competing with for-hire motor carriers either, because contract carriage is, to a great extent, a substitution for private carriage, which industry can usually perform for itself if for-hire carriers attempt to set rates very far above the costs of truck operation.

A recent letter from an able railroad traffic executive puts the problem clearly as follows:

> "The person who pays the freight is interested mainly in the price and will use the agency that offers him the lowest price on the bulk of his goods. He will, of course, pay a premium occasionally on a part of his business to obtain expedited service."

The railroads cannot meet the situation merely by making their rates equal to truck rates, because the trucks usually give a more complete (and frequently a faster) service. Unequal service at equal rates is not price parity. The shipper or receiver looks at his transportation problem as one of *total costs,* both in money and convenience. The railroads can get the business, not by keeping their competitive attention fixed on the truck rates, but by directing their gaze at the *shippers' and receivers' costs.* If they can reduce *these costs* below anything the trucker can afford to offer and below the cost of any service the shipper can provide for himself, then, and not until then, will the railroads have got on top of their competition.

Fortunately for the railroads, their costs are so low that they can make profit-yielding rates on a large part of the traffic now being handled by trucks —rates so low that neither for-hire nor private trucks can afford to handle the traffic. A general lowering of the ceiling on higher-rated volume traffic would have the effect, also, of depriving the trucks of traffic yielding unusual profits—which enables them to solicit back-haul and fill-in tonnage on a below-cost basis. When the truck is deprived of its "cream," it usually has to give up a lot of "skim-milk" too (but what is "skim-milk" to trucks may be pretty nourishing business for railroads, with their much-lower costs).

Probably no wiser words have been said on the most hopeful method of attacking the railroads' modern competitive problem than those of A. D. Phillips of the U. S. Rubber Company (*Railway Age,* November 9, page 685) when he urged that railroad traffic men acquire a wider and deeper knowledge of the product they are selling, and a livelier first-hand understanding of the situation of prospective customers. The day of the traffic man with only "hail fellow" qualifications has past. The man now coming to the top is the quiet one with a fact-and-figure mind and a pervading curiosity—with a passion for actual facts and an ability to sift and analyze these facts, and act upon them in a way to save money for his customers; and hence to get their business on a basis—not of favoritism, but of sound economy.

Placing competition of transportation agencies on a basis of their comparative economy has possibilities of far-reaching importance in the incentive it will give to both railroad managements and railroad employees to reduce the costs of marginal services and terminal handling—so that costs thus reduced may enable them to compete for an ever-widening area of traffic. When a system of rates is devised under which greater economy of handling automatically rewards the economizers (in volume of business and jobs), the eventual outcome ought to be to put the railroads definitely out of range of their highway rivals. We may take heart in the fact that the railroads can move from 1,000 to 5,000 tons with five men. Adjustments should be possible which should largely remove the threat coming from a rival who, after all, needs two men to haul 10 to 20 tons—even though this rival does get his highway service from the taxpayers at a ridiculously non-compensatory price.

out the world are doing Great Britain's cause nothing but harm in the United States.

Why, then, are Britishers such as Laski and Wells peddling this kind of propaganda in the United States? We think one answer is that they don't know the real attitude of the American people, but believe, because of Mr. Roosevelt's domestic policies and his election three times, that a majority of Americans favor socialism. But whether or not they believe they are catering to the less than 27 million who last month voted for Roosevelt, it is a certainty they are antagonizing the 22 million who voted against him, and who heretofore have been strongly in favor of supporting Great Britain.

Another reason why these British socialists are talking socialism in the United States undoubtedly is that they are trying thereby to further the world revolution for socialism in behalf of which they contend that Great Britain should take the leadership. But has not the United States enough of its own advocates and promoters of socialistic policies and socialism, without having them supplemented and reinforced by foreign advocates of socialistic policies and socialism? And if we are going to encourage foreign writers and lecturers to come over here and propagandize for Karl Marx's and Joe Stalin's brand of socialism, why not encourage other foreign writers and lecturers to come over and propagandize for Hitler's Naziism and Mussolini's Fascism? We can hardly believe the British government and people want socialism more than they want American sympathy and support; and if they don't they had better call home their Laskis, Wells' and other noisy British propagandists for socialism, for there are millions of people in this country to whom propaganda for socialism is as offensive as propaganda for Naziism.

Are Socialists the Only People Needed to Win the War?

Another question of great importance that is raised by this British advocacy and prediction of socialism, and especially by Ambassador Kennedy's prediction of its establishment in Great Britain, is this: Does a democracy's participation in a modern war necessarily lead directly toward socialism? The argument made by Laski and other British socialists is, in substance, that the working class of a modern democratic country will not wholeheartedly support its government in a war unless the government adopts socialistic policies, or complete socialism; and, therefore, in order to win a war, a democratic government must largely or completely adopt socialism. This argument is necessarily premised upon the assumption either that (1) the working class of every democratic country favors socialism, or (2) labor support of a democratic government in a war is more essential than that of all other classes, or (3) all other classes can be relied upon to support a democratic government in a war, even though it adopts socialistic policies, or actual complete socialism.

We don't believe there is anything in experience or reason to support either of these assumptions. We don't believe the working class of the United States favors socialism, although undoubtedly many of its leaders and members favor many socialistic policies. We believe that, in case the United States became involved in a war, the unstinted support of our government by other classes would be quite as important as its unstinted support by labor. And we believe that the best means the government could adopt for impairing the effectiveness of its preparedness or war effort would be socialistic policies intended to placate those having less than average incomes, but which would be certain to antagonize those having larger-than-average incomes.

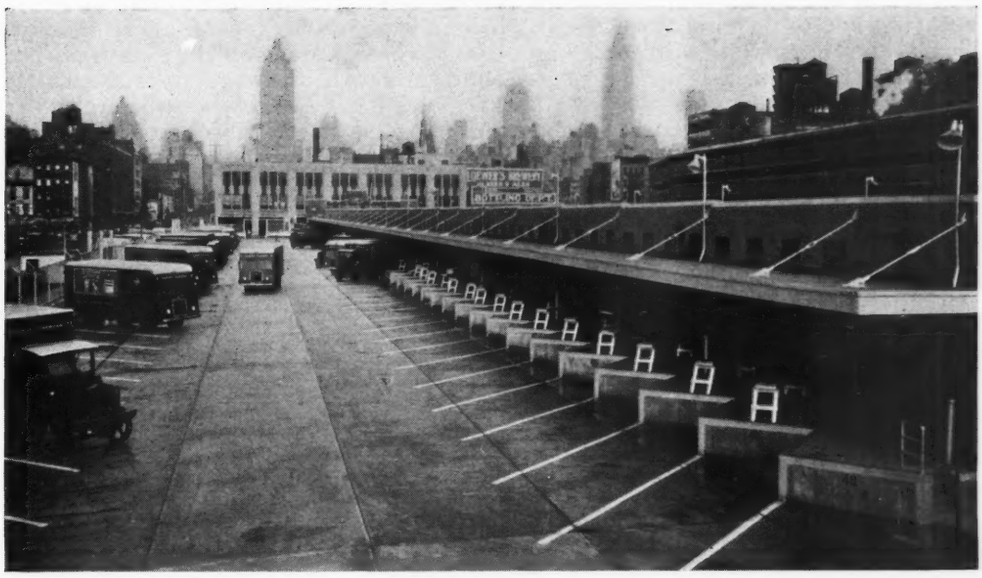
If the vote in the recent election indicates that our people are divided politically into classes based principally on income, it also indicates that the two classes are very nearly equal in size, and that the government would take as much risk and arouse as much opposition in antagonizing one as the other. Therefore, if our leaders in government really are chiefly concerned with protecting us from foreign foes they will carefully avoid stimulating class antagonisms and divisions; and the best way to do that will be to avoid adoption of policies, whether socialistic or otherwise, intended to benefit any income class at the expense of any other income class or classes. Whatever the ostensible purpose of such policies, few will be deceived as to their real purpose; and no matter what class they favor they will impair national efficiency, whether for preparedness or for war.

Nonproductive Expenditures by Railroads

Aside from tax payments for highway purposes, railroads regularly make much larger expenditures in connection with highway improvement than most people realize. In his survey of such expenditures, in the five year period, 1927-1931, in connection with his report on Public Aids to Transportation, Commissioner Eastman found nonproductive expenditures by railroads amounting to approximately $213,000,000. These expenditures all were in connection with carrying out public policies, and all were charged to operation and maintenance, although they were not productive of operating savings. Almost $130,000,000 of the amount was in connection with crossing improvements and protection, most of it being due to highway improvement policies.

Ratio of Taxes to Gross Receipts

The railroad industry pays more taxes in proportion to its gross receipts than other industry, according to studies included in the recent report on Public Aids to Transportation. The report presents a table showing the ratios of tax payments to gross receipts by the country's principal industries for the six year period 1928-1933. The average railroad ratio of tax payments to gross receipts in this period was 6.67, but it has been much higher subsequently, the figure for 1938 reaching 9.5, and 8.9 in 1939. The average of all industrial groups, other than those in public service fields, for the six year period was about three points below the railroad average. The average of the non-utility groups in 1933, for instance, was 2.43 while the steam railroad average for that year was 7.34.



Looking Along the North Side of the New Building From a Point Near the West End

Express Agency Builds Largest Sorting Station

Efficiency of new facility at New York enhanced by improved conveyor system, "sawtooth" tailboard space, broad driveways and fluorescent lighting

A NEW sorting station for railway express shipments, which bears the distinction of being the largest facility of its kind in the country, has been placed in operation in New York by the Railway Express Agency, Inc. Aside from its size, the new structure is also of interest because of its efficient arrangement, involving "sawtooth" platforms and driveways of ample width for expediting the movement of trucks, the use of fluorescent lighting fixtures on the platform, and the fact that the conveyor system with which the express-handling platform is equipped, consisting of four-wheel trailers attached to an endless chain, embodies a number of important improvements as compared with previous installations of this type. Incidentally, this structure represents the first instance in which the overhead chain conveyor system developed by the Railway Express Agency has been installed as an integral part of a new building, all previous installations having been made in existing terminals.

Location and Purpose

The new facility serves as a station where both inbound and outbound express shipments are sorted and consolidated into street trucks or trailers for delivery to local consignees or to railroad terminals as the case may be, and is without a railway connection. It supplements existing facilities in New York and was constructed primarily as a result of the increase in railway express business that followed the introduction of new tariffs on April 15, 1939.

Located on Forty-Second street between Eleventh and Twelfth avenues, the station serves the territory on New York's west side between Twenty-Eighth street on the south and Fifty-Ninth street on the north. This territory includes the so-called garment center, an important clothing manufacturing district, which is productive of a large volume of express business. Not only is the new station centrally located to this center, but its location is also such as to permit the rapid transfer of business to and from rail terminals in both New York and on the west shore of the Hudson river in New Jersey.

Located on property leased from the New York Central, the new station, together with its driveways and other facilities, occupies the entire block bounded by Forty-First street on the south, and Forty-Second street on the north, Eleventh avenue on the east and Twelfth avenue on the west. This property is approximately 200 ft. wide and 800 ft. long, the latter dimension being in the east-and-west direction or parallel with Forty-Second street.

The structure that was built on this property to house the new facility has an over-all length of 675 ft. and a width of 69 ft. 3 in., and is centrally located with respect to the width of the property to allow an equal expanse of driveway space on each side. At its easterly end there is a two-story office section, 51 ft. in depth, which faces on Eleventh avenue. The first floor of this section contains an office for serving the public in making express shipments or buying financial paper, a warm room for the protection of perishable shipments, a supply room, an office for the timekeeper, toilet facilities and a boiler pit. The second floor contains the agent's office, space for clerical employees, a drivers' settlement room, and a locker and rest room.

The remainder of the structure, approximately 624 ft.

in length, is devoted entirely to a covered platform which occupies the entire width of the building. The platform is at tailboard height and for its entire length on both sides is laid out on the sawtooth pattern, with spaces for a total of 96 trucks along the sides and room for additional units along the westerly end of the platform. At the extreme westerly end of the property occupied by the new facilities there is a one-story garage and repair shop for servicing trucks, which is 75 ft. by 150 ft. in plan.

Construction Details

The buildings comprising the new terminal are of concrete, brick and steel construction. The platform consists of a 6-in. reinforced concrete slab laid on 7 in. of cinders, while the back-up walls are also of concrete, the exposed edges of the "sawteeth" being protected by 6-in. by 6-in. by ⅜-in. angles. In the roof structure over the platform the principal load-carrying members consist of 33-in. by 11½-in. by 125-lb. wide-flange beams, which span transversely on 20-ft. centers between lines of H-section columns at the edges of the platform, giving a clear unobstructed width between these columns of 56 ft. 6 in.

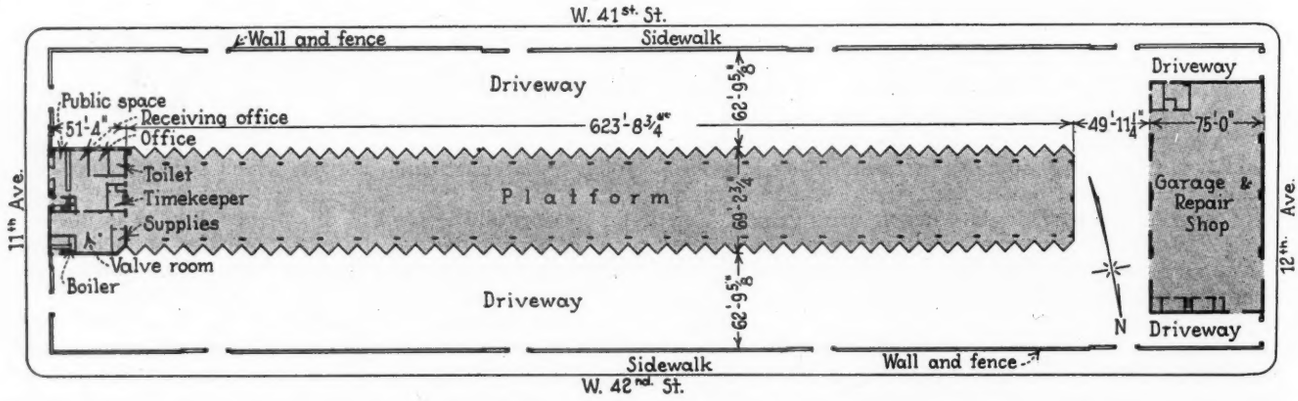
Spanning between the main beams are purlins consisting of 16-in. by 7-in. by 36-lb. wide-flange beams, which in turn carry sub-purlins of 8-in by 4-in. by 13-lb. angle beams.

Supported on this structure is a flat roof deck consisting of lightweight precast concrete slabs, two inches thick. These slabs, which are reinforced with wire mesh in both the top and bottom, were made with aerated slag aggregate to minimize their weight; as a consequence they present a load of only 12 lb. per sq. ft. The slabs are covered by a five-ply built-up roof.

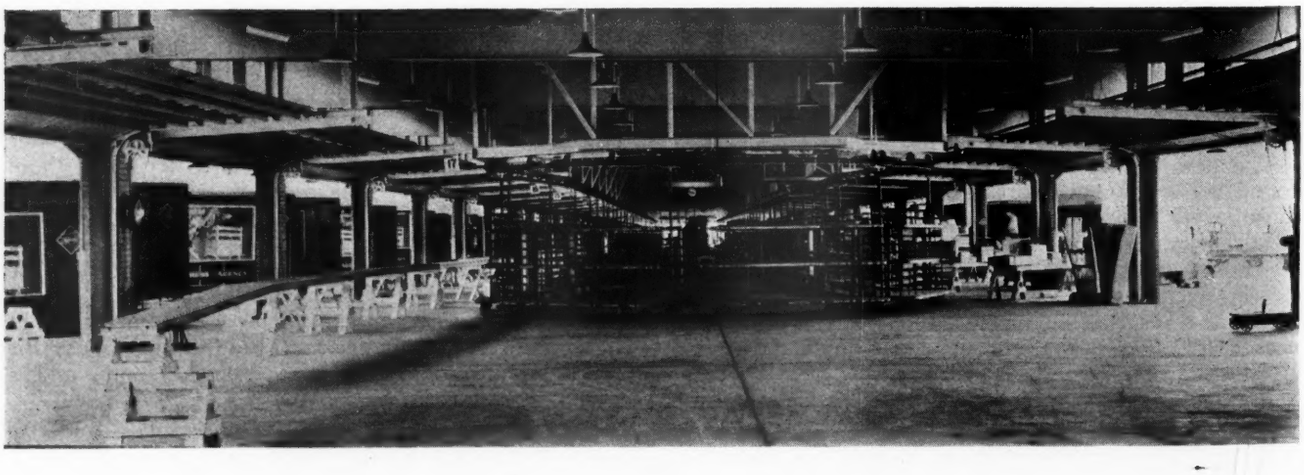
Except for brick pilasters at the columns, the side walls of the structure and that at the west end are given over entirely to door openings. With two exceptions, these openings are fitted with steel overhead counterweighted doors of the Kinnear Rol-Top type, each of which has a single row of glass panels. The exceptions are the doors in the end bays on both sides of the structure at its western extremity, which are fitted with overhead roller-shutter doors to prevent interference with the doors in the end wall when in the raised or open position. Above the door openings, the side walls are of brick extending into roof parapets that are topped with cast-stone copings. Along both sides of the structure and at the west end the loading and unloading operations are protected by canopies about 11 ft. wide. These consist of steel frames covered with the lightweight concrete slabs and are supported by hanger rods attached to the tops of the roof-supporting columns.

Broad Driveways

The main building is surrounded on three sides by broad paved drives, those on the sides being about 63 ft. in width, while that at the west end, which comprises the space between the main building and the garage, is about 50 ft. wide. Hence, trucks have ample space in which to maneuver freely without being subject to interference from street traffic which is particularly heavy in this district. This fact, combined with the advantages inherent in the sawtooth arrangement of the tailboard space, serves materially to enhance the operating efficiency of the terminal and to expedite the movement of



Above—Plan of the New Sorting Station, Including the First Floor of the Two-Story Office Section. Below—Looking West on the Sorting Station Platform, Showing the East End of the Conveyor Circuit



trucks. Also, because of the generous width of the drives, space is available for parking about 200 vehicles at night.

The property occupied by the new terminal is enclosed within a concrete wall, 4 ft. high, which is surmounted by 6 ft. of wire mesh fencing. The latter is in turn topped by three strands of barbed wire which is fastened

This View, Taken Along the North Side of the Platform, Shows the Conveyor in Operation. The Employee Is Transferring Outbound Merchandise From a Gravity Conveyor to the Chain Conveyor

to supports that slant outward (toward the street) at an angle of about 45 deg. with the vertical. Gates are provided in the fence at frequent intervals as a further means of expediting the movement of trucks.

Probably the most outstanding feature of the new facility is the conveyor system on the express-handling platform. Briefly, this system utilizes the endless conveyor principle, by means of which the movement of merchandise along and across the platform is accomplished mechanically. It is comprised essentially of a continuous line of four-wheel trailers, each of which is attached to an overhead endless chain which draws the trailers around a closed circuit on the platform. When the chain conveyor is in operation the trailers are constantly in motion. Merchandise unloaded from street trucks is placed on light-weight roller gravity conveyors which bridge the gap to the chain conveyor. It is then placed on the conveyor and moves around the circuit, being taken off at designated points for reloading in other street trucks or trailers by means of which it is delivered to terminals or to local consignees, depending on whether it is outbound or inbound.

The first continuous conveyor for handling express was developed by the Express Agency for its Inland terminal in New York in 1938.* This installation proved so successful as a means of expediting the handling and sorting of merchandise that similar conveyors were subsequently installed in a number of other existing rail terminals and sorting stations throughout the country. Meanwhile many improvements, both of a mechanical nature and in the method of operation, have been introduced, with the result that the latest conveyor differs markedly in a number of respects from the first installation.

In all of the earlier chain and truck conveyors ordinary four-wheel platform trucks, equipped with a second shelf, were employed, which were attached to the overhead chain by means of towing chains. In the new terminal, however, specially-designed all-metal triple-deck trailers were used, which have a more rigid connection with the overhead chain and which embody a number of other improvements and refinements. Moreover, while the first conveyor is used only for handling outbound shipments, the newest installation is designed to handle both inbound and outbound merchandise. Originally it was necessary to place a number on each parcel to designate the proper point in the circuit for its removal from the conveyor, but in the latest installation parcels are placed in designated compartments on the trailers and no marking is necessary.

In the Forty-Second Street sorting station the conveyor circuit is 465 ft. long and 21 ft. wide with semi-circular ends. Since the center line of the circuit coincides with the longitudinal center line of the platform, there is an aisle about 17 ft. wide on each side of the conveyor. In transferring merchandise across this space from street vehicles to the conveyor trucks and vice versa, extensive use is made of light-weight gravity conveyors of the roller type, which are of such a height as to minimize bending and stooping on the part of employees.

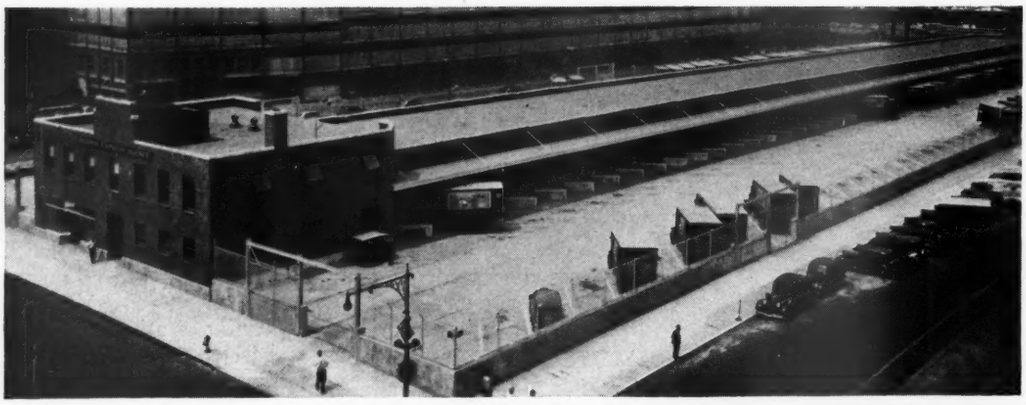
The chain and truck conveyor at the new terminal might be described as an endless, articulated conveyor composed of sections 10 ft. long. There are 82 sections, each of which consists of an all-steel triple-deck trailer, the lower decks being 3 ft. wide and the upper decks slightly narrower. Each deck is divided into compartments by removable pipe partitions, each of which has two legs that fit into holes in the deck. Since pairs of holes are placed at 20-in. intervals throughout the length of each deck, the size of the compartments can be adjusted by removing or inserting partitions as necessary.

View of the Aisle Between the Chain Conveyor and the South Side of the Platform. Merchandise Is Transferred From the Conveyor to Waiting Trailers by Means of the Gravity Conveyors

The middle deck of each trailer is removable so that it can be taken out to allow space for bulky articles. Each trailer is equipped with four rubber-tired castor wheels.

At the forward end of each trailer there is a vertical pipe mast which receives in its upper end a pin attached to the over-head chain. It is by means of this connection that the trailers are pulled along by the chain. Because of the rigid nature of this type of connection, the forward ends of the trailers are held to a fixed alinement,

* This initial installation was described in detail in the July 30, 1938, issue of the *Railway Age*, page 193.



This Panoramic View of the New Sorting Station Was Taken From a Point Near the Intersection of Forty - Second Street (Right) and Eleventh Avenue

this being a considerable improvement over the chain connections used in the original installation. Couplers between adjacent trailers are provided to keep the rear ends in the proper alinement. Adjacent trailers are placed as close together as the curvature at the ends of the circuit will permit, the maximum distance between them being about 16 in.

Conveyor Chain and Drive

The overhead chain, which is 964 ft. long, is suspended by means of rollers at frequent intervals from a rigid track consisting of an I-beam, placed work-wise, which is hung from the roof members by structural angles. The rollers operate on the upper surfaces of the lower flanges of the I-beam. For driving the chain a 20-hp. motor is provided, which is located above the north leg of the conveyor at a point about midway of its length. The motor drives a sprocket chain which in turn engages the conveyor chain. To absorb shocks created during the starting and stopping of the conveyor, the motor is mounted on a floating base.

The total moving platform space on the chain-and-truck conveyor amounts to about 6,800 sq. ft., and it is estimated that it has a theoretical capacity for handling more than 20,000 pieces of merchandise per hour, which compares with 8,000 to 12,000 pieces per hour for previous installations.

The average length of time required to handle a piece of merchandise from the tail gate of one truck to that on another is about five minutes.

It has already been mentioned that the new sorting station handles both inbound and outbound business. Since the bulk of the inbound business is handled during the morning hours, while the movement of outbound merchandise occurs during the afternoon and evening, there is little conflict between the two movements. In both cases a section of the tailboard space on the north side of the platform is used for unloading incoming trucks, while the remainder of the tailboard space, including that at the west end of the platform, is devoted to the loading operations.

Operation—Inbound Business

In handling inbound business the function of this station is to consolidate and classify merchandise for loading into delivery trucks, each of which has a definite route. For the loading function the tailboard space is divided into 19 "posts," each of which embraces three or four routes, or "books," as they are called. Each post is designated by an overhead sign on which is painted the proper number.

For the purpose of classifying inbound merchandise, the conveyor is divided generally into increments of five trucks each. On two of the trucks in each increment the compartments are numbered from 1 to 9, inclusive, while on two others the numbering is from 10 to 19. The fifth truck in each group, in which the middle shelf has been removed, is used for handling parcels that are too bulky to be placed in the compartments of the other four trailers. On all the trucks the numbers of the different compartments are designated by white figures.

When inbound merchandise is unloaded at the station the addresses of the consignees are noted and each parcel is placed in a compartment on the conveyor having a number corresponding with that of the proper post for the particular address. As the trailers move past the different posts a platform man at each of them watches those compartments with numbers corresponding to that of his post and removes the parcels that they contain. At each post there is a gravity conveyor for each route or book and the parcels are, of course, placed on one of these for direct delivery to the trucks. For the guidance of those employees who handle merchandise from trucks to the chain conveyor, large signs are posted at intervals giving the information necessary to determine the post numbers of different parcels.

Outbound Business

Outbound express is handled by the conveyor system in the same manner as inbound merchandise except that it must be classified for delivery to railroad terminals. To accomplish this the compartments on the chain trailers are labeled in yellow paint with the names of railroads, railroad terminals or the more important destinations, and at each of the back-up spaces assigned for loading purposes there is an overhead sign corresponding with one of the compartment names. Thus, as each piece of merchandise is unloaded from the pick-up trucks the destination is noted and the parcel is placed in the proper compartment on one of the conveyor trucks. In this way outbound express is assorted into 32 classifications on the conveyor and then loaded simultaneously into 46 trailers and into 6 additional trailers which can be parked at the east end of the platform to receive bulk shipments.

This sorting station is open day and night and, to insure the efficient functioning of the system of assorting merchandise described above, it is necessary that addresses on packages be read rapidly and accurately. Hence it was imperative that efficient illumination be provided, and to this end a line of 100-watt fluorescent lighting fixtures was installed along each side of the chain conveyor, there being a total of 74 lights of this type. Other portions of the platform and building are amply illuminated by incandescent lights. On the exterior the parking space is illuminated at night by a line of flood lights on each side of the structure. These con-

sist of reflectors mounted on pipe standards that are attached to the walls above the canopies.

The new sorting station was designed and constructed under the supervision of R. W. Thomson, superintendent of buildings at New York for the Railway Express Agency. C. G. Peterson, chief engineer of the agency, who devised the original chain and truck conveyor and the light-weight roller conveyors, was responsible for the improvements and refinements incorporated in the latest installation. The buildings were constructed under contract by the John W. Ryan Company, New York, while the chain conveyor and the gravity conveyors were built by the Jervis B. Webb Company, Detroit, Mich.

A. A. R. Takes Biased "Public Aid" Report Apart

THE Association of American Railroads has issued a 214-page, paper-bound book entitled "What Is Public Aid to Transportation?" in rejoinder to and criticism of the four volumes entitled "Public Aids to Transportation" (see *Railway Age*, April 20, 1940, p. 703), which were issued by Commissioner Eastman, as a posthumous product of his job as Federal Coordinator of Transportation. The A. A. R. book, which is a thoroughly documented and scholarly work, asserts in its foreword that the Eastman report was "inconsistent" in its treatment of the different agencies of transportation. Continuing, it says:

"The report on railroads combs the records for 111 years to assemble every discoverable item that may be included under the broad terms of 'public aid' as defined. Every item is given an inflated money value and the sum total is amassed in a final cumulative figure. This is the only agency of transportation where such procedure is followed.

"Waterways are treated on an annual basis (1936), do not have applied to them many important items stipulated in the definition of public aid and are much too favorably compared with railroads as to relative costs.

"Highways are also treated on an annual, not a cumulative basis. They are not charged with many items stipulated in the definition of public aid as applied to railroads. The report shows for a 17-year period, 1921-27, a total cost for highway improvement and maintenance of $25,500,000,000. It further shows only $10,500,000,000 of this amount recovered from motor vehicle payments, leaving 15 billion dollars to be paid by the general taxpayers. Not a dollar of this is considered to be public aid. Analysis also reveals that the report charges the ordinary passenger car 2½ times as much as the heaviest trucks and buses on a per-ton-mile basis.

"Air transportation is found to have been and to be receiving 'public aid' in generous measure and to be developing rapidly, yet the report reaches the conclusion that it is not a 'serious problem.'"

A rather meager degree of customary scholarly objectivity by Mr. Eastman's investigators is suggested by the evidence presented indicating the thoroughness with which they raked the ancient past for any and all concessions ever granted to the railroads, by comparison with their attitude of "let bygones be bygones" in compiling the cost to the public of aids to other methods of transport. For instance, the railroad industry has charged against it as a public aid low tariff duties levied on rails imported from 1830 to 1843 (when it would have been just as fair to credit the railroads with the duties they *did* pay). Railroads have charged up to them all the free rights-of-way they secured, while no charge is made against highway transportation whatsoever for rights-of-way. Numerous and almost equally important omissions are made with respect to waterways and air lines.

Moreover, while the Eastman report admits that rival carriers do not pay taxes for the general support of government on the fixed investment in their roadways (which taxes the railways *do* pay), the Eastman researchers brush this all away with a, "Think nothing of it." Also, while the Eastman investigators admit that the railroads have given back to the public enormous returns on any aid given, "while nothing comparable has been accomplished by the aids given to other forms of transportation," nevertheless these federal scholars did not reduce their compilation of alleged public aids to the railroads by the amount of these offsetting contributions by the railroads to the public.

Mr. Eastman's researchers, it appears, not only were so flabbergasted by the facts they uncovered that they were unable to (or, at least, didn't) give them consistent analysis—they were also pretty helpless about drawing any constructive conclusions from them. Said they:

"The impracticability of doing anything significant in the way of placing on a sound economic basis facilities now carried along by means of public aid has been demonstrated in the pages above. The conditions of uneconomic competition which they create appear likely to be perpetuated. New projects put in their claims for public funds. No end to the process is in sight . . . it appears appropriate to offer some suggestions . . . as to . . . appraisal of the merits of specific projects as they are pressed for consideration in the future."

Then these irresolute researchers went on to say:

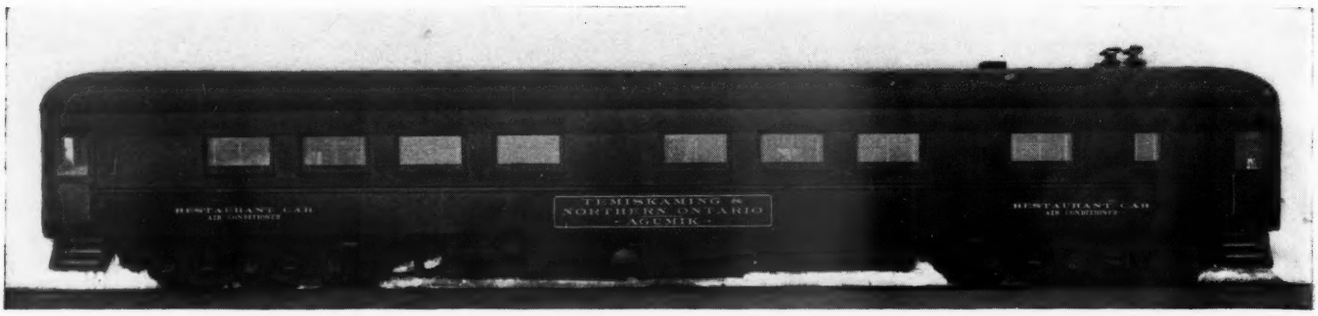
"Barring changes in public policy, there will be very large additions to transportation capacity in the next ten years and many of these additions will represent sheer duplication of existing facilities."

(*Continued on page 904*)

How Much Typical Trucks Overpaid or Underpaid Their Fair Share of Highway Costs

Classification of Motor Vehicles:	Eastman Report: Average Assigned Cost, Excluding Taxes	Eastman Report: Average Actual Payment	Eastman Report: Over or Under Payment, Excluding Taxes	Eastman Report: Average Cost Including Taxes	Eastman Report: Over or under Payment, Including Taxes	Highway Engineers' Report: Average Assigned Cost, Including Taxes	Highway Engineers' Report: Average Actual Payment	Highway Engineers' Report: Over or Under Payment, Including Taxes
Private Trucks:								
5 tons, single	$287	$256	—$31	$330	—$74	$1,432	$271	—$1,161
5 tons, combinations	311	277	—34	362	—85	1,433	305	—1,128
Over 5 tons, single	316	358	42	364	—6	1,706	356	—1,350
Over 5 tons, combinations	372	457	85	432	25	1,947	486	—1,461
For-hire Trucks (tons):								
1½ and less	102	105	3	113	—8	209	101	—108
Over 1½ and less than 3:								
Single	152	178	26	173	5	362	167	—195
Combinations	157	226	69	178	48	354	213	—141
3 and less than 5, single	251	282	31	289	—7	1,146	269	—877
3 and less than 5, combinations	193	349	156	220	129	823	320	—503
5 tons, single	457	403	—54	534	—131	2,024	370	—1,654
5 tons, combinations	457	465	8	534	—69	2,026	432	—1,594
Over 5 tons, single	499	594	95	582	12	2,412	492	—1,920
Over 5 tons, combinations	545	832	287	636	196	2,755	708	—2,047

Note—Minus signs indicate amounts by which vehicle fees are estimated to have been less than a fair impost.



Exterior View of Temiskaming's Restaurant Car "Agumik"

Temiskaming Rebuilds Restaurant Car Using Counter Seats

Tastefully arranged interior attracts patronage—Spray-type air-conditioning furnishes humidified and filtered air

ON September 8, 1940, the Temiskaming & Northern Ontario placed in service a restaurant car of the counter type equipped with all facilities necessary for the serving of full course meals, light lunches, and the usual soda-fountain menu. In the two months during which the car has been in use, the patrons of that road have indicated acceptance of the new service by increasing patronage.

The car, named the "Agumik," is of steel and wood construction and was originally a cafe-parlor car seating 18 persons in the dining section and 12 persons in the parlor section. A smoking room separated the two sections.

The kitchen and pantry were at one end and the toilets and crew lockers at the other.

The redesigning on this car was done by the railroad mechanical staff and the work performed at the company's North Bay, Ontario, shops.

Structural and Body Changes

No changes were made in the original steel underframe, which consisted of the box-type center sill having 18-in. channels spaced 16 in. back to back, with ½-in. cover plates top and bottom. Side-sill construction consists of a 5-in. by 3½-in. by 9/16-in. angle with a 5/16-in. by 35-in. continuous steel girder. Two fabricated crossbearers, spaced at 33 ft. 1 in., together with end construction of angles, channels, and plates form the framework.

The car body was completely rebuilt. Window-sill height was raised throughout the car to 36⅞ in. to accommodate the luncheonette. At the end of the car toilet and dressing-room facilities for the crew occupy 6 ft. 1 in. along one side of the car and the entrance passage-way has been re-arranged.

At the kitchen end of the car the natural-ice refrigerator was rebuilt to provide icing from the vestibule instead of the roof and access to the refrigerator from inside the kitchen proper. The kitchen throughout is of stainless steel. To insure an adequate water supply a 30-in. diameter by 6-ft. tank was installed vertically at the end of the steam table, the galvanized tank being housed behind a stainless-steel housing.

The kitchen arrangement and equipment has been improved and new drop ceilings applied to conceal the overhead tanks and pipes. Trap doors, suitably located, provide easy access to the tanks and piping.

Interior Arrangement

The interior of the main part of the car has been completely modernized. The window-panel units project into the car about 1½ in. beyond the usual inside face, and are finished in Prima Vera Realwood Formica mounted on a plywood backing, each individual window panel being secured to the side posts. The recessed space between the special window panels is faced with Turquois blue Formica. Small individual show cases are secured at several of these recesses.

Principal Dimensions and Weight of the T. & N. O. Restaurant Car

Length over diaphragm face plates, ft.-in.	79-11¼
Length over end frame, ft.-in.	70- 3½
Truck centers, ft.-in.	51-10
Extreme width, ft.-in.	9-11
Inside width, ft.-in.	8-11½
Height from rail to top of roof, ft.-in.	14- 1
Weight, in working order, lb.	173,000

The end partitions are faced with Formica of a special shade of rust red. Trough lighting is installed the full length of the main section at a point where the lower deck adjoins the car sides. On the end partitions, and directly over the counter are two panels hand carved from white rubber, the recesses in the panels being tinted with red. The car ceiling is formed in a continuous curve from the lower deck curve and the upper deck is used as an air duct. The center ceiling carries the air-distribution system.

The ceiling was so designed as to permit a continuous system of lighting running along the center of the car, thus each side of this ceiling is hinged to permit easy access for cleaning. The ceiling is painted a light gray.

All windows are fitted with Venetian blinds, slats and

headboxes being finished in Prima Vera effect to match the window treatment.

The counter chairs, 24 in number, harmonize with the interior treatment; the pedestals are finished in light gray enamel and the dunlopillo seats, and seat backs are covered with turquois blue leather. A chromium-plated hat hook is located on each seat pedestal.

The design of the counter was based on the necessity of utilizing all available space for dishes, cutlery and glassware, and other stored materials. Two automatic drinking-water stations of stainless steel are also conveniently located under the counter. The face of the counter on the passenger side is Formica of a special rust red shade. At each counter chair there is a compartment for storing small personal articles and purses. The counter top has a non-skid gray rubber covering, in marble effect. Direct steam heating coils for one side of the car are located in a recess, running the full length of the counter. The floor covering on the passenger side of the car is non-skid rubber of dark red in marble effect.

The service passageway between the counter and the luncheonette is slatted, this removable slat floor resting on a water-tight galvanized floor.

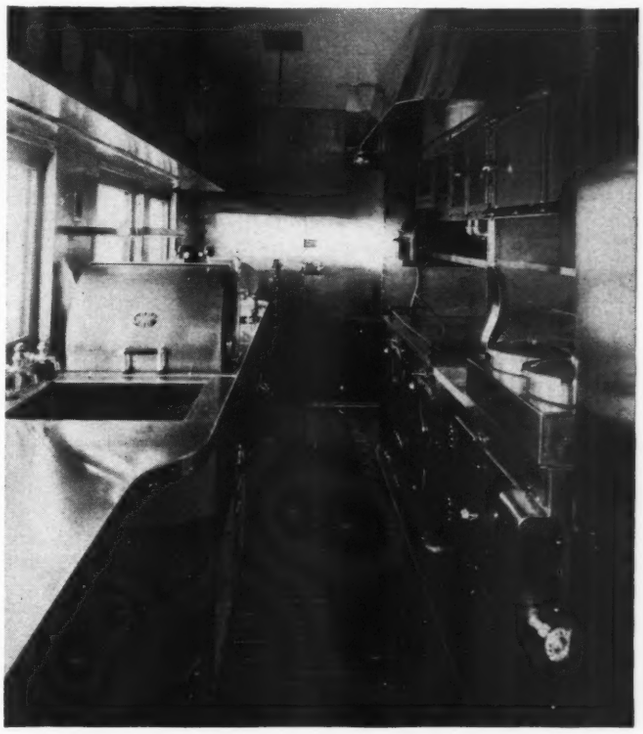
Along one side of the car is a 46-ft. ½-in. long stainless steel luncheonette. It is composed of 10 individual sections, each located to provide ease of service. The soda-fountain section is only 20 in. wide and has an overall height of 36 in., thus fitting in nicely below the window sills. On top of the luncheonette at suitable locations are two short-order grills each 30 in. long by 16 in. wide, with a canopy on top, and a coffee urn of generous size. All short-order cooking and toasted sandwiches are prepared on these grills, while heavy cooking is done in the kitchen on the regular dining-car range.

Cooking odors from the grills are removed from the car by being piped to the regular exhaust system of the car's air conditioning equipment. This exhaust is controlled by a fan in the crew's quarters.

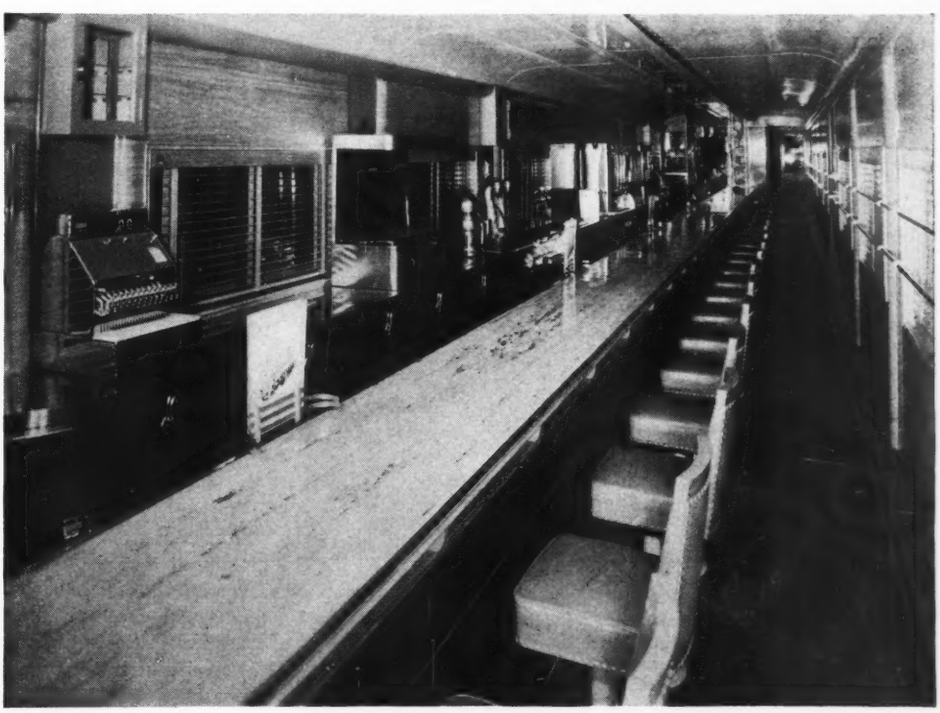
The refrigeration for the luncheonette is natural ice stored in separate containers. The luncheonette rests on metal supports 8 in. in height. In the space under the luncheonette are the drain piping, water piping, and carbonic-gas piping to the soda fountain. A stainless-steel baseboard secured to the face of the supports incloses all the piping. An electric glass washer is also part of the soda-fountain equipment.

Other labor-saving equipment installed in the car include an electric meat slicer, electric drink mixers and juice extractor, and in the kitchen an electric dish washer.

Carbonic gas for the soda fountain is obtained from two standard size tanks located in a locker adjacent to the partition adjoining the kitchen. Above this compart-



View of the Kitchen



The Attractive Interior is Finished in Plywood and Formica and the Counter Service Has Accommodations for 24 Persons

ment is the main storage compartment for cigarettes, cigars and confections.

To provide an ample supply of water storage for luncheonette and drinking-water stations a 30-in. diameter by 8-ft. galvanized pressure supply tank is located under the car.

Throughout the car liberal use has been made of chrome-metal moldings.

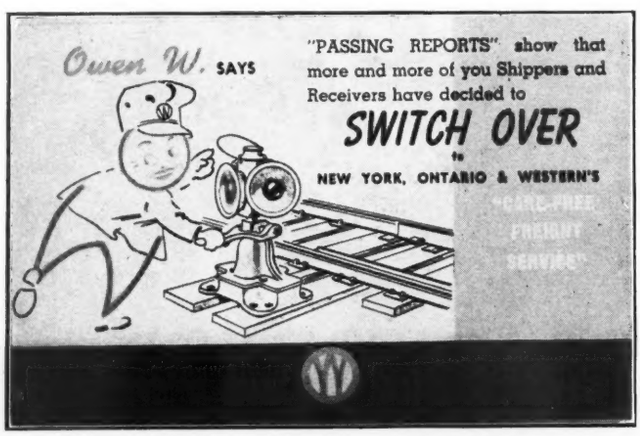
Air-Conditioning Equipment

These cars are equipped with the Railvane spray-type air-conditioning system furnished by the B. F. Sturtevant Company. This system cools, dehumidifies, filters, washes and sterilizes the air during the summer months and heats and humidifies the filtered, sterilized air distributed to the car in the winter time. The spray unit is located at one end of the car directly over the false ceiling. Uniform distribution is obtained through the use of a Sturtevant blower fan unit. The cooled or warm air is forced into the distributing duct, passes down the full length of the car above the ceiling and is distributed through the Burgess air-distributing ceiling. The spray unit is housed in a water-tight casing in which there are approximately 30 spray nozzles having a spray capacity of approximately 30 gallons of atomized cooled water per minute. The air passes through this spray, which removes bacteria and dust, and is properly humidified. In winter operation, when the sprays cannot be operated without window condensation difficulties, a high-intensity ultra-violet sterilizer is substituted for the sprays. Incorporated in the spray chamber at both ends are eliminator blades for preventing moisture from passing into the car space, and for winter operation there is a steam-heating unit for heating the required volume of outside air taken into the car for ventilation purposes. The ice bins, sump and motor-driven double-impeller pump are beneath the car floor.

The exterior of the car is painted standard green in Dulux. The railroad company's standard lettering, in gold leaf on a panel of castillian red, is located at the center of the car. The roof is painted black, as are the trucks and underframe equipment.

Electrical energy is supplied by a 10-kw. generator suspended from the underframe and operated by a mechanical drive.

* * *


Owen W. SAYS
"PASSING REPORTS" show that more and more of you Shippers and Receivers have decided to
SWITCH OVER
to
NEW YORK, ONTARIO & WESTERN'S

The New York, Ontario & Western Has Prepared a Series of Promotional Blotters for Distribution Among Shippers—They Are Finished in High Colors and All Make Use of the "O. & W." Symbol, About Which the Comic Figure, Named "Owen W." Is Built—A Number of the Series Are Tied in With Holiday Seasons Such As Thanksgiving, Christmas and New Years

A. A. R. Takes Biased "Public Aid" Report Apart

(*Continued from page 901*)

The A. A. R. book comments appropriately as follows:

"The concluding suggestion is that an appraisal of the economic soundness of proposed additional facilities be made in advance of commitment. As an example of what may be done, the report of the Bureau of Public Roads on superhighways is mentioned. This citation is unfortunate in that the real recommendation of that report is not to build toll highways but to seek large amounts of funds from federal and state governments for regional superhighways. . . .

"The apparent conclusion is that if careful appraisal of the economic soundness of projects now in existence or to be brought into existence were made, the uneconomic existing facilities would probably be eliminated by rail, by highway and by water and only useful facilities would be built as new projects. Everyone will probably agree that if sound economic considerations can be made to control additional transportation projects, half the battle will have been won.

"It has required a most extended discussion to reach such a simple conclusion. Nothing new has been brought forward. Every student of the subject has long known that the primary difficulty is to control additional transportation projects by sound economic considerations, rather than on a political basis. The primary difficulty is that no such economic consideration will be given. This, however, would have been apparent to the writers of this lengthy report if one-half the attention they have devoted to the activities of certain people connected with financing the railroads more than a half a century ago, had been given to the pressure groups for new waterways and the nation-wide lobby for the more extensive highway expenditures and airway expenditures. There is our real difficulty and there our real difficulty remains."

Of all the amazing conclusions reached by these investigators, none is more bewildering than that which finds that the annual cost of highways in the 1921-37 period was over 25 billions, while only 10 billions of this total are "assigned" to the users of the highways as their share, leaving 15 billions to be paid for by the general public, *and this 15 billions is not called public aid.* No impartial critic would have to go any further than this to suspect that the report of Mr. Eastman's investigators is far from the competent analysis which the public had a right to expect in a work issued under such auspices and after such prolonged study.

Appended to the A. A. R. book is a report by C. B. Breed, Clifford Older and W S. Downs, eminent highway engineers retained by the A. A. R., in which they present their analysis of highway costs and the proper allocation of them among various classes of motor vehicles. These authorities conclude, in startling contrast to the opinion of the Eastman researchers, that highway users in the 1921-37 period got "public aid" of only a little less than 13 billion dollars—as compared to only a few assorted millions charged to them in the Eastman report. As far as the average road-fee payments by typical commercial motor vehicles are concerned—compared with what these payments ought to be—the wide discrepancy between the conclusions of the Eastman investigators with those of the highway engineers is indicated in the accompanying table, taken from the A. A. R. book.

THE EGYPTIAN STATE RAILWAYS are planning to substitute cottonseed cake for oil as fuel for about 100 steam locomotives. Experiments that have been made indicate that cottonseed cake mixed with coal will bring satisfactory results. The American commercial attache at Cairo reports that the railway administration has contracted for about 40,000 tons of cottonseed for fuel purposes.

Securing Compliance with Operating Rules*

A practical discussion of relationships between management and men for greater efficiency

RAILWAY operating rules represent the methods and practices found necessary and desirable through experience in educating and co-ordinating the efforts of various classes of employees who comprise a railroad organization. They are the formulae which guide employees in the performance of their duties. They represent the creed and catechism of railroad men, and constitute the basis on which all other supplemental instructions are issued in various forms where detailed instructions are necessary. It necessarily follows that all officers and employees must be schooled and qualified to assure proper and satisfactory compliance with the rules. This is especially necessary because of the hazardous nature of the industry. Train service employees in particular, those most vitally concerned or involved with the operating rules, are to a very large extent self-supervised. This situation does not necessarily indicate a lack of proper or adequate supervision on the part of strictly supervisory employees. It recognizes, on the other hand, the fact that the operation of trains involves large areas and long distances with varying degrees of density. Obviously, such employees must be depended upon to know, practice and abide by the rules laid down and found necessary under conditions where their duties cannot be carried out or performed under direct supervision. Practical means for securing compliance with operating rules is, therefore, a worthy subject on which to reflect.

Safety—A Prime Essential

The initial instruction appearing in the Book of Rules of one large Eastern railroad is as follows:

"Safety is of the first importance in the discharge of duty."

"Obedience to the rules is essential to safety."

"To enter or remain in the service is an assurance of willingness to obey the rules."

"The service demands the faithful, intelligent and courteous discharge of duty."

"To obtain promotion, ability must be shown for greater responsibility."

This brief but emphatic five-sentence instruction forcibly covers the scope or intent of the rules which follow, and, in addition, sets forth the basic obligation which is accepted by those who are inducted into the service. It furnishes an excellent approach to the elements which are involved in securing compliance with the operating rules.

Assuming the rules to be proper, satisfactory and adequate, and accepting the principle that satisfactory systems for checking employee efficiency are in effect, the first element to be considered is the employee.

Those who are charged with the responsibility of employing men should have a full knowledge of the requirements of the service. In the selection of employees, proper judgment should be exercised to the end that men suitably equipped and qualified to perform a given service are accepted. Imagination and vision are necessary requisites in the selection of candidates, in order that their possibilities can be projected beyond the immediate time of hiring to the end that the finished and fully rounded out employee will suitably blend and develop with the requirements of the service to which he is assigned. Employees are investments to any industrial organization. Wages, together with their progressive efficiency, represent the investment cost and their value.

It is important that human material be appraised in the selection of employees who are entrusted to the care, operation and direction of the railroads and their facilities. Obviously, health is a vital consideration. The proper functioning of all human activities largely depends on health. The varying conditions under which employees function—irregular hours, severe weather, mental and physical strain, together with the ability to alter or change established routine in meeting abnormal conditions require that the employee be equipped with good health, both physical and mental, if he is to be developed into a strong, capable and efficient investment. The employing officer should assure himself that the prospective employee has the basic requirements for the position to which he will be assigned. Good health, proper mental attitude, ability to learn, willingness to put forth the required effort, education, ambition are some of the qualities which appear to be essential.

The first requisite for employment should be the passing of a satisfactory physical examination. This should be followed by periodic examinations such as are required by most railroad companies. The underlying purpose of this program is to assure a continued satisfactory standard of health to the end that safe operation of the railroad will not be jeopardized by weak parts of its human structure.

Adaptability

Individuals unconsciously group themselves. Either by environment, training, education or natural inclination, they are particularly adapted to follow certain professions or occupations. The practical application, as concerns compliance with rules, rests in the fact that before employment, employee assignment should contemplate proper consideration of natural tendencies, inclinations, habits, experience, education, ambition, etc., in order that the part upon which compliance with the rules is dependent will possess the greatest number of natural advantages. The proper assignment of employees is a responsibility of the employing officer that is not to be slighted or considered trivial. Men who are happy in their occupation, those who are adapted, trained, educated and properly supervised in the proper line of endeavor, will respond satisfactorily. They will

* From a report presented at the last convention of the American Association of Railroad Superintendents by a committee of which E. C. Gegenheimer, superintendent, Pennsylvania, was chairman.

own a deep rooted desire and determination to "play ball" according to the rules. Possessed of proper health and assigned to congenial occupations and surroundings, they should appreciate the value of rules and cooperate fully in complying with them.

Imparting Knowledge

Compliance with rules is our objective. Education and training are prime vehicles for attainment of our goal. "Knowledge advances by steps, not by leaps." Our system of education and training must, therefore, be administered to some extent in homeopathic doses. Initial instructions should be carefully and thoroughly given, and in such quantity and quality as to assure assimilation or understanding on the part of those being instructed. It is important that newly acquired employees be acquainted and reasonably familiarized with the topography of the country to be traversed, or, in other words, the nature of their duties, the requirements of the service, the purpose of the objective and its benefits. The benefits are multiple. They accrue to the employee and to the employer. They furnish incentive, if properly understood. An understanding of the objective is a necessary requisite if we are successfully and advantageously to project the full scope and meaning of compliance with rules into the minds of newly acquired employees. It will assist them in visualizing their part in the scheme or art of railroading. It will assist them in anticipation and preparation for more different forward steps which they must take between the initial step into the service and the final step into retirement. It will prepare them basically for the acquirement of greater knowledge necessary to their continuance in the service.

Having been given initial instruction, advice and counsel, it is necessary that some pre-determined system of progressive instruction be followed. This is usually accomplished through the medium of so-called first, second and third year examinations. It comprehends the systematic acquiring of knowledge, both by study and experience, to the end that within a reasonable time the employee has reached a degree of efficiency where individual reasoning, thinking, initiative and compliance with rules can be expected without immediate supervision under conditions where supervision as such cannot be present. To guard against deterioration and to assure familiarity and knowledge of current changes in rules, etc., subsequent periodic or triennial examinations are conducted and found necessary. The examinations referred to are intended as a guarantee or a means of knowing that employees are in possession of the necessary knowledge by which to perform their duties efficiently and to equip them with the power to comply with rules. Unless employees see them with their own eyes, and perceive them through their own understanding, they are in the dark and void of knowledge of the rules. Complete knowledge is, therefore, the prime factor in obtaining compliance with the rules.

Proper Supervision

From those who have shown ability for greater responsibility, are selected the individuals who are entrusted with the task and responsibility of training, educating, directing and supervising various groups or classes of employees. To a very large extent they are the men who have forged ahead by individual effort and application to business. Ability to accept greater responsibility should be in the minds of employing officers, and having been selected for greater responsibility should remain in the mind of the supervisor. It is his job to direct, co-ordinate and regulate the efforts of others.

He must have faith in what he is doing and in those whom he is supervising. He should be strong enough in character to detect the flaws of those subordinate to him and to deal with their correction in a firm but fair manner. His actions should be based upon courageous knowledge. His is the task of not alone directing, but also of seeking and developing qualities. The man who perceives a superiority or a capacity in a subordinate and neither confesses nor assists it, is not merely the withholder of kindness, but the committer of injury. He has a noral obligation to himself, his company and his subordinate to teach, to direct, to assist and to solve the difficulties which confront his men. It is his obligation to know and understand his men and to deal with them with thoroughness. It is a fact that firmness and fairness command respect.

The supervisor's duty requires that he realize his problem, that his action be courageous, that his relationships be fair, that his authority be used with firmness, that he criticize constructively, that he encourage rather than discourage, that he create incentive rather than destroy enthusiasm, and that he radiate aggressive energy throughout his organization. Spirit, the will to do, the desire to accomplish, morale, esprit de corps—call it what you will—is closely associated with successful supervision. Efficient supervision is imperative in obtaining compliance with the rules.

Everyday Practices

All classes of employees are subject to and must conform to rules and practices. Certain crafts, such as train and engine service employees, are more vitally concerned with operating rules than others. It is, therefore, necessary that some suitable and satisfactory system be adopted to gage efficiency and definitely to develop deficiencies from whatever cause. Operating rules are intended for and are associated with train operations. It is important that the correct thing be done at the proper time and it is equally important that we know and have proper record of actions which are taken. This is necessary not alone to develop proper and safe operating practices, but also to detect failures for the purpose of taking preventive measures before accidents result.

In order to check efficiency, many railroads have established certain routines, the purpose of which is to duplicate actual operating conditions imposing certain recognized restrictions affecting train movement and generally encountered in daily operation. They are commonly referred to as efficiency tests and observations, and cover the more important conditions which produce hazards in train operation. Potential hazards are not duplicated in the conducting of these tests, the essential feature being to develop the reaction of employees under given circumstances. They serve a valuable purpose; their recording provides a valuable record. They furnish definite evidence of knowledge or understanding of rules. They furnish invaluable opportunities for further clarification or understanding of rules where derelictions are discovered. Their purpose is defeated unless fairly and accurately conducted. When made, they should duplicate actual conditions and no attempt should be made to conduct them on any other basis.

Corrective measures taken with those responsible for violation of rules should be tempered with judgment, but under no circumstances should the offending employee be permitted to continue in his accustomed duty without definite assurance that proper understanding of the rule has been accomplished. Records thus obtained are the instruments by which habitual offenders are discovered.

They develop the weak links and make possible the forging of stronger chains, either by further welding or replacement of the links found to be defective. Efficiency tests and observations are accepted as a most practicable means for obtaining compliance with rules.

The Purpose of Safety

We teach safety for but one purpose, the prevention of accidents. The same thing can be said concerning the objective sought in the operating rules. They are so closely allied that they are to all intents and purposes intermingled one with the other. Certainly their objectives are aimed at the same target—Safety. We teach, instruct, exact and check safety performance in much the same manner as we pursue the various activities associated with operating performance. They are tied with the same string—Safety. We provide an established book of safety rules or practices in the same manner as operating rules. We check for efficiency and violations, likewise. We maintain records and resort to comparable corrective measures in dealing with violations. Both are systems or methods of performing railroad tasks, or operations associated with them.

System and organization are essential to the prosecution of any program. Our activities are organized in safety committees, and our system is carried out along preconceived plans which contemplate periodic meetings for instructions and interrogation. This is extended into the ranks by sub-committees, constant observation, the adoption of the "rule-a-day" plan and various other methods by which safety is kept ever before the eyes and in the minds of men. Teaching one is teaching the other, and there are unknown numbers of opportunities for furthering the interests of operating rules in the activities which are heralded around the banner of Safety, and an incentive must be supplied to keep interest aroused.

The Value of Rivalry

The likelihood of a satisfactory performance is greatly enhanced if employees begin their daily tasks imbued with the desire to do their very best, possessed with faith that their efforts are pointed in the right direction, and firmly in the hope that by determined and careful effort their daily problems will be solved. Everyone likes to win; not everyone is willing to exert the required effort to win. There are many avenues leading to incentive, and competition is one method of arousing incentive to obtain compliance with operating rules. Everyone is born with a sense of rivalry, and a desire to excel.

Relative degrees of success can be measured in terms of energy or effort, and, in some instances, in terms of outright laziness. Therefore, incentive is a weapon for combating laziness and increasing the output of energy or the expanding of effort. It can be applied individually or collectively, and this has been recognized in various forms of prizes, or rewards which are offered for outstanding performances. Thus there are available certain badges of merit for those, individually or by groups, who are fired by incentive, who possess the will to win, and to those who put forth the required effort to succeed. Personal recognition, trophies, medals, certificates and other forms of awards are important stimulants in obtaining compliance with rules. There is pride in being a winner.

Competitive enterprises depend upon keen but fair rivalry if they are to survive. There is real advantage in a competitive spirit between groups or individuals in fostering and obtaining compliance with rules. Competition is somewhat of a partner with incentive, and usually the factors which produce incentive also encourage competition.

A variety of mechanical and electrical appliances are available and in daily use in checking compliance with and in some instances forestalling or preventing violations of rules. The length of this report will not permit a complete description of such appliances or a discussion of how they operate. You are familiar with the terms "train control" and "cab signal systems," "impact registers," "speed recorders," "speedometers," etc., and will understand that in some instances these appliances are intended to defeat what otherwise might be rule violations. Their purpose is to prevent or neutralize man failures. They are an integral part of any program initiated to secure compliance with operating rules. One of the most effective tests yet devised, simple in its execution, is that of observing train speed in connection with a signal which requires a reduction in train speed, to observe whether immediate action is taken to reduce or check the speed of the train.

All of the foregoing may be summed up in one short sentence: compliance with operating rules is the result of everlasting vigilance on the part of the supervision.

New Book . . .

Federal Regulatory Action and Control, by Frederick F. Blachly and Miriam E. Oatman. 356 pages. 9 in. by 6 in. Bound in cloth. Published by the Brookings Institution, Washington, D. C. Price, $3.

The growing powers of regulatory bodies in our government as forces outside the regular orbits of the traditional triumvirate of the legislative, judicial and executive branches are discussed here in a scholarly fashion by students working under the direction of the justly-respected Brookings Institution. While the Interstate Commerce Commission is handled only as one of the large number of such bodies, it is given particular attention as the grand-daddy of them all.

The study is in no way a description of administrative procedure and cannot serve as a guide to the handling of specific problems with administrative agencies. But it does comprise one of the best collections of broad criticism of governmental regulation as a whole, and since it gives particular emphasis to the charge that administrative bodies assume functions that actually belong to management, hits railroad officers "where they live." It is particularly good in its presentation of the three main schools of thought for reforming our regulatory bodies, which it labels respectively, (1) the executive management doctrine, (2) doctrine of the judicial formula and, (3) the revisionist doctrine. Briefly, the first group holds that administrative bodies should be placed under direct control of the President in order to marry their power with his responsibility; the second group, represented officially by the American Bar Association, urges court review of regulatory actions; while the third seeks to revise the *status quo* step by step in the belief that problems of regulation require new precedents and techniques. A series of outlines at the rear under the heading of "supporting statements" furnish good ammunition for the adherents of any of the above.

STATION NAMES on the Canadian National may be attributed to sheer ingenuity in a number of instances, according to the road's weekly News-letter. Take the first two letters of "Canadian Northern Railway" and Canora, Sask., results. Two settlers, A. Dunlop and W. Rea, gave their name to Dunrea, Man. Two real estate agents, Langdon and Ruth, were responsible for Langruth, Man., while Hemaruka is a compound of Helen, Margaret, Ruth and Kathleen, daughters of a former vice-president of the road.

NEWS

Oil Firms Fight Lower RR Rates

Having low-cost barges and pipe lines themselves, status quo suits them

The Standard Oil Company of Ohio, the annual reports of which boast of expenditures on pipe and barge lines to free it from the necessity of using railroads, was one of the principal protestants at a recent hearing in New York in connection with new low rates on crude and fuel oil from the middle West to Eastern seaboard points proposed by roads in Central Freight and Trunk Line territories. E. C. Robinson, traffic manager of Standard of Ohio, characterized the railroads' proposal as "one of deception to camouflage the real purpose behind it and that is to enable the proponents to ship into Ohio and surrounding states on a more favorable basis than is now available to them."

The annual report of this same oil concern for 1939 announces that "your company, through its subsidiaries and affiliates, will shortly be in a position to bring practically all of its crude oil requirements all or most of the way to its refineries through its own trunk pipe lines and barge facilities. Thus, the objectives of a few years ago have been realized even more rapidly and extensively than your management had expected when it set out on this program." The report further declares that the improvement in the firm's profit for 1939 was due "to a considerable extent" to capital expenditures in recent years on pipe and barge line facilities.

Included in the private transportation program was the purchase of interest in the Owensboro-Ashland gathering pipe line system in western Kentucky which enables Standard of Ohio to get all of its crude oil from that area by pipe line to the Ohio river, "from which point it can be barged at reduced cost." The company also erected in 1939 a terminal at Mt. Vernon, Ind. (to which crude oil from the newer fields in southern Indiana and Illinois is transported in new company-owned pipe lines), "to accommodate barge movements at that point which are now of substantial volume."

Ashland Oil & Refining Company, a large concern affiliated with Standard of Ohio, also protested the rate-cut proposal in a wire expressing "unalterable" opposition to the proposal which, it charged, was "camouflage" to obtain lower rates to intermediate points. Representatives of other large oil concerns, certain independent refineries and the Anthracite Institute also opposed the lower rates.

The new rates on crude and fuel oil which are thus opposed are on a basis of 15 per cent of first-class, as compared with the present basis of 26 per cent, and would apply from St. Louis, Mo., Chicago and intermediate points to New York, Philadelphia, Pa., Baltimore, Md., and Norfolk, Va. Schedules of present and proposed rates, expressed per 100 lb. and per barrel, are as follows:

	Present		Proposed	
	100 lb.	Bar.	100 lb.	Bar.
Chi. to N. Y.	40	1.243	25	77.7
Chi. to Phila.	42	1.305	24	74.5
Chi. to Balt.	40	1.243	23	71.4
St. L. to N. Y.	48	1.491	28	87.
St. L. to Phila.	46	1.429	26	80.8
St. L. to Balt.	44	1.367	25	77.7

The new rates ought to give the railroads a competitive edge over coastal tankers from Gulf points to Eastern seaboard points—especially in heating oils—according to observers. Charter tanker rates on oil and gasoline have skyrocketed more than 300 per cent in the last two months and, further tightening of available boats due to war-conditions and continued requisitioning by the Navy of the newer and faster craft, may bring even greater increases. Tanker charges on heating oil from Gulf points now stand at 65 cents per barrel. When it is considered that a large portion of these cargoes, on reaching Eastern ports, must be afforded further transportation to interior points by truck or rail, and that a handling charge is generally made at each end of the voyage, the proposed railroad rate of 71 cents per barrel from Chicago to Baltimore, for example, gives the tank car more than a fighting chance to get into the Eastern market with Illinois and other Mid-western oil. As a matter of fact, last winter when the tanker rate reached about 64 cents per barrel, a small railroad movement from competitive fields developed at even the present high rates.

Canada's Col. Smart Passes at 66

Col. V. I Smart, Canadian Deputy Minister of Transport since 1930, died suddenly at Ottawa, Ont., on December 2. Col. Smart, after several years government service as a surveyor and experience as an engineer, signal engineer and engineer maintenance of way, on several roads in the United States, became professor of railway engineering at McGill University, Montreal, Que. In 1923 he joined the Canadian National as a special engineer, becoming general superintendent of transportation, Western region, in 1928. In 1930 Col. Smart became deputy minister in the railways and canals department of the Dominion, becoming deputy minister of transport upon re-organization of the department.

F. D. R. to Push The Big Ditch

Will ask Congress to build seaway and power aspects of St. Lawrence project

President Roosevelt delivered a message (through Assistant Secretary of State A. A. Berle) to the Great Lakes Seaway & Power Conference at Detroit, Mich., on December 5 stating that he will propose to Congress in January that it take immediate steps to complete the St. Lawrence seaway project. His message indicated that he wants work on both the navigation and power aspects of the program, a stand which clashes with recent statements to the effect that he seeks only the electric power production facilities for the present as being the more necessary "national defense" move.

The President's message stressed the older argument of the need of getting increased power quickly for aluminum plants and other munitions industries and a fairly new one embracing the idea that deep-water navigation would make it possible to relieve over-taxed and vulnerable seacoast shipyards by building shipyards on the Great Lakes "with access to the ocean, yet close to the sources of supply of labor, raw and finished materials, further removed from possible attack." Declaring that the project is "comparable in economic value to the Panama Canal," he said that the whole project will cost less than three battleships and that the power project "will be entirely self-liquidating." The navigation aspect he excluded from the latter category by omission.

Of the opposition, President Roosevelt said: "Selfish interests will tell you that I am cloaking this great project in national defense in order to gain an objective which has always been dear to me. But I tell you that it has always been dear to me because I recognized its vital importance to the people in peace and in war." And elsewhere, "Who can say, with assurance, that we shall not need for our defense or peaceful pursuits every possible shipbuilding resource, particularly those that exist and may be developed in the interior of our country? Only one who can say that we do not need the battleships that we are now building will dare to say that we do not need the essential Great Lakes-St. Lawrence Seaway."

As for the peace time "benefits" of the project the President asserted: "What this project means to the ordinary man and woman cannot be too highly stressed. It

(*Continued on page 916*)

Time Seen as Ripe for Merger

Fritch urges consolidation as safeguard against post-war slump and bankruptcy

L. C. Fritch, retired operating vice-president of the Rock Island, has recently circulated an appeal for early action on consolidating the railroads into a limited number of systems. It is pointed out that the recently-enacted Transportation Act of 1940 puts the responsibility for initiating consolidations upon the railroads themselves—and they are urged to act without delay, to fortify themselves against the severe depression which is foreseen as soon as the nation's defense efforts end. Unless the carriers are thus prepared against such a depression, the possible bankruptcy of all the railroads and their eventual government ownership is seen as a not-unlikely outcome.

Toward the objective of general consolidation, Mr. Fritch makes concrete proposals, to which he gives his name: "The Fritch Plan." According to this plan, the country would be divided into five regions and each region would have five "key" railroad systems. The plan further provides for the creation of a "National Coordination Commission," representing owners, employes, and the public, the function of which would be to "evaluate the individual railroads, determine their financial and physical structure and co-ordinate" them "with respect to lines, facilities, equipment and operation." The plan also provides for the creation of "Regional Coordination Commissions" in each region, the function of which would be to administer the operations in the respective regions, subject to the jurisdiction of the National Commission.

It is contended that the plan "would save millions of dollars to the present equity holders, establish the credit of the railroads, and be equitable and just to all interests." Therefore, Mr. Fritch urges that "no railroad in bankruptcy be reorganized on the basis of the Commission's plans until the railroads are coordinated under a practicable plan."

It is further held that "some form of coordination of the country's railroads is necessary in the interests of national defense as a primary need, and secondly in the interest of having a prosperous transportation industry established and maintained under private ownership and control. The coordination of the Railroads should be carried out under the direction of the National Defense Commission, Transportation section, with the greatest dispatch."

The National Coordination Commission would be composed of fifteen members, to be chosen one member from each of the regions, representing, respectively, owners, employes and the public. The function of the Commission would be to "evaluate each of the Class I railroads; establish the financial, physical and economic value of each road; assign to each road its proper place in the coordination plan; and establish a sound financial structure for the coordinated systems."

The Regional Coordination Commission in each region would also have fifteen members, one to be selected from each of the "key" systems, representing, respectively, the owners, employes, and the public. Its function would be to "make rules and regulations governing the operation of the regional systems, make recommendation to the National Commission with respect to the coordination of lines and facilities, abandonments, extensions, and carry out the instructions from the National Commission."

The five regions and the five "key" systems in each are as follows:

EASTERN

1. *New England*—B. & M., N. H., Me. C., B. A. R.
2. *New York Central*—N. Y. C., P. & L. E., Rutland, W. Md.
3. *Pennsylvania*—P. R. R., W. J. & S., L. I., Wab. (e. of St. L.).
4. *Baltimore & Ohio*—B. & O., Rdg., C. N. J., C. I. & L.
5. *Erie*—*Erie*, N. K. P., L. V., D. L. & W., P. M.

SOUTHERN

1. *Atlantic Coast Line*—A. C. L., L. & N., N. C. & St. L., Clinch., F. E. C., A. & W. P.
2. *Southern*—So., A. C. S., C. S. & F., G. M. & O., A. & V.
3. *Illinois Central*—I. C., Y. & M. V., C. of Ga., V. S. & P.
4. *Seaboard*—S. A. L.
5. *Pocahontas*—C. & O., N. & W., Virginian.

SOUTHWESTERN

1. *Missouri Pacific*—Mo. P., G. C. L., I. & G. N.
2. *Frisco*—St. L. S. F., S. S. W.
3. *Missouri-Kansas-Texas*—M-K-T.
4. *Texas & Pacific*—T. & P.
5. *Kansas City Southern*—K. C. S., L. & A.

WESTERN

1. *Southern Pacific*—S. P.
2. *Santa Fe*—A. T. & S. F., K. C. M. & O., C. G. W.
3. *Burlington*—C. B. & Q., C. & S., F. W. & D. C., D. & R. G. W., W. P.
4. *Rock Island*—C. R. I. & P., C. R. I. & G.
5. *Union Pacific*—U. P., Wab., (w. of St. L.).

NORTHERN

1. *Northwestern*—C. & N. W., C. St. P. M. & O.
2. *Milwaukee*—C. M. St. P. & P.
3. *Great Northern*—G. N.
4. *Northern Pacific*—N. P.
5. *Soo*—M. St. P. & S. S. M., D. S. S. & A.

Would Approve Scott Brothers' "Grandfather" Rights

Scott Brothers, Inc., a motor carrier affiliate of the Pennsylvania, would be authorized to continue operations as a contract carrier by motor vehicle of specific commodities limited to a service in which it leases motor vehicles with drivers to shippers for the transportation of such shippers' property from Philadelphia, Pa., to points within described areas in Delaware and New Jersey, over irregular routes, because of "grandfather" rights, if the Interstate Commerce Commission adopts a proposed report of its Examiner F. R. Benny.

At the same time Examiner Benny would have the commission refuse to grant this company authority to extend its operations as a contract carrier by motor vehicles of steel products limited to a service in which it proposes to lease motor vehicles with drivers to a shipper for the transportation of the shipper's property between points in Connecticut, New York, New Jersey, and Pennsylvania, within 90 miles of and including Jersey City, but excluding Pottstown, Pa., over irregular routes. This last finding would be grounded on the theory that such an extension of operations would not be "consistent with the public interest and the national transportation policy."

Traffic in Sight, Not Alarming

New Deal jitters over boom from defense orders not justified by 1917-20 experience

"In spite of the huge expenditures for national preparedness now beginning, the railways still have more reason for fearing they will not have enough traffic and earnings in the months and years immediately ahead, than for fearing they will be offered more traffic than they can handle," declared Samuel O. Dunn, chairman of the Simmons-Boardman Publishing Corporation and editor of the *Railway Age*, in Cheyenne, Wyo., on December 11 in an address on "The Economic Problems of Preparedness" at a joint luncheon of the Central Western Shippers' Advisory Board, and the Cheyenne Chamber of Commerce and Rotary Club.

"There is a lot of nonsense being disseminated from Washington by certain self-styled 'economists' of the New Deal to the effect that the outlay of billions for defense will soon start a spiral of increasing production that will increase the national income from about 72 billion dollars this year to 90 to 100 billion within a few years, and that, consequently, the railways must rapidly get ready to handle a greatly increased traffic. The total volume of the country's production and commerce have been slightly larger this year than in 1936, have been expanding throughout the year at about the same rate as in 1936 and I feel confident will continue to expand next year.

"But to attribute this to past, current or prospective government spending is much the same kind of economic humbug that has been used by the same people for years to persuade public sentiment to support reckless spending and other policies that thus far have actually prevented recovery and made this the longest depression in history. If there is going to be within a few years an increase, *not of prices, but of production*, increasing the national income to 90 to 100 billion, it will have to be due principally, not to increased government spending, whatever its purposes, but to changes in economic policies still burdening and restricting private enterprise as they have for more than seven years. Surely, we should have had enough experience already to convince any receptive and rational mind that huge government spending, unaccompanied by policies encouraging and stimulating production by private enterprise to meet the ordinary demands of the people for goods, tends rather to *restrict* than to expand the total volume of production and commerce.

"During the nine years ending with 1939 federal government expenditures were increased 87 per cent, or an average of 3 billion 200 million dollars annually, over the preceding nine years, to stimulate business; and yet during those nine years the national income averaged 13 billion dollars annually less than in the preceding nine years. But it may be—and actually is—said that this was not enough of an increase in spending to 'prime the pump,' and

that the enormous increase in government expenditures for national defense will do the trick. Strangely enough, our actual experience with such expenditures, due to our participation in the Great War, seems to be wholly ignored, although it is very significant and enlightening. In the four years ending with 1916, before we entered the war, federal government expenditures averaged less than ¾ of a billion dollars annually; in the four years 1917-1920, inclusive, they averaged *almost 10 billion dollars* annually; and in the four years 1921-1924, inclusive, they were reduced to an annual average of 4 billion.

"There were big increases reported, meantime, in the national income, but these were largely fictitious because due mainly to advances in prices. What I am concerned with in this discussion is the probable increase—due to government expenditures—of *production* and, consequently, of *traffic demands* on the railways. How much, then did total *production* increase before, during and following the huge expenditures made on account of the last war? The National Industrial Conference Board, in a book published two years ago, equated statistics of the national income for the preceding 140 years on the *same basis of prices* for the express purpose of indicating the changes in national *production* that had occurred. These figures indicate that the nation's *average annual total production* increased 10 per cent in the four years 1913-1916, inclusive, when federal government expenditures averaged only ¾ of a billion dollars annually; increased 11 per cent in the four years 1917-1920, inclusive, when federal government expenditures averaged 10 billion annually; and increased 7 per cent more in the four years 1921-1924, when federal government expenditures had been reduced to 4 billion annually. Thus, none of the available data regarding the effects of increases and decreases in government expenditures, lend the slightest support whatever to the view that the huge expenditures for defense now beginning will *alone* cause anything remotely approaching the increase in total national production being predicted by the befuddled and heretofore infallibly wrong economists of the New Deal.

"What, then, should railroad management do in preparing for the future? It should do what the management of every other industry should do—(1) prepare, if possible, more than adequately to cope with all the *probable* demands of peace and war; (2) advocate every change in government, business and labor policies that economic experience indicates will encourage and stimulate *private enterprise* to increase production for both civilian and military purposes; and (3) base its estimates of future business, not on prospective government spending, but on the extent to which the economic policies adopted by government, especially, but also by business and labor, are adapted to increasing total production. *For it will be these policies, and not spending for defense,* that will principally determine the future volume of production and commerce.

"Excepting equipment—a sufficient amount more of which they could rapidly acquire—the railroads have a capacity for handling a peak-load freight traffic at least 50 per cent greater than their peak-load traffic last fall—in fact, actually handled 45 per cent more in the falls of both 1926 and 1929. What their managements and all identified in interest with the industry are and should be concerned about, therefore, is what is going to be done to provide them, or *prevent them from having,* about a 50 per cent increase in freight business. This, if they get it, will be principally due to an increase in production for purely commercial purposes, rather than for preparedness; for all experience and reason indicate that an increase of even 10 billion dollars a year in expenditures for preparedness could not possibly cause an increase of more than 15 per cent in the country's present total production and traffic, and will not cause—or permit—that much of an increase unless backed by sound economic policies.

"What policies should be adopted, then, to insure a great increase in production and traffic, not only for defense, but also for civilian purposes? Numerous changes in present policies are desirable to this end, but there are a few upon which virtually all persons knowing anything about both economics and business will agree. One is, reduction as much as possible of every kind of government expenditure excepting for defense. This is essential to prevention of ruinous increases in government debt and taxes, the fear of both of which is largely responsible for the lack of business confidence in the future so plainly shown by present prices in the security markets. Fortunately it is being favored by President Roosevelt. Another essential policy is avoidance of general advances in prices and of every influence tending to cause them, including advances of wages and all other increases of costs. Such advances in prices as occurred during the last war would not only restrict all buying and production excepting for defense, but lead straight toward ruinous inflation of the currency."

Employees and Railroads Prosper or Lose Together

At the regular monthly meeting of the Car Foremen's Association of Chicago at the Hotel LaSalle, Chicago, on December 9, the principal address was presented by Samuel O. Dunn, chairman of the Simmons-Boardman Publishing Corporation and editor of *Railway Age*. In discussing "the future of the railroads and of railroad employment," Mr. Dunn showed that in the ten years ending with 1939 railway gross earnings declined an average of 37 per cent, as compared with the ten years ending with 1929; the average number of employees decreased 38 per cent; and the average total payroll 38 per cent. The almost identical character of these three percentages, therefore, "emphasizes that the interests of the railroads as a whole and their employees as a whole are so identical that they do and *must* prosper or suffer adversity together."

Mr. Dunn quoted figures to show that, in periods both of prosperity and business recession, about 47 per cent of railway gross earnings are expended in the form of wages to employees. He said, "In my opinion, the future of the railways and of employment on the railways is principally in the hands of railway managements and employees. If they spend their energies in fighting each other over the division of gross earnings, they will do very little to increase what either will get, because they will contribute very little toward increasing the amount of gross earnings to be divided. On the other hand, by co-operating in all practicable ways toward increasing railway gross earnings, they can within a few years increase the amount of gross earnings to be divided from about 4 billion to about 6 billion dollars a year."

Farley Made N. Y. Central Director

James A. Farley, former Postmaster-General and manager of the Democratic presidential election campaigns in 1932 and 1936, has been elected to the board of directors of the New York Central to fill a post which has been vacant for some time.

Re-issue of Special Car Order No. 42

Because of "the necessity for including in certain of its provisions 50-ft. device-equipped cars," the Car Service Division of the Association of American Railroads has promulgated a complete reissue of Special Car Order No. 42 which is designed to protect loadings of government motor trucks being shipped out of Pontiac, Mich. The reissue, which supersedes and cancels the original order of October 24 and supplements 1, 2 and 3, applies to a grand total of 7,489 cars; originally only 3,200 were covered.

Short Line Officer to Study Rutland Situation

Lewis A. Putnam, vice-president of the Montpelier & Wells River, Barre & Chelsea and St. Johnsbury & Lake Champlain, with headquarters at Barre, Vt., has been appointed by Federal Judge J. P. Leamy at Rutland to make a survey of the ailing Rutland road and "render a report to aid in determining a solution to its difficulties," for which he will be paid $5,000, including compensation of all aides. The survey will not be a mere appraisal of the physical assets of the road but the report is expected to "express an opinion as to whether the ratio of income to operating costs can be increased, whether fixed charges can be met and whether the railroad can be re-organized on a sound financial basis assuring its continued operation."

November Export Traffic

Export traffic through Atlantic and Gulf ports in November was approximately one per cent greater than in the same month one year ago, according to reports compiled by the Manager of Port Traffic, and made public by the Association of Ameri-

can Railroads. Cars of export freight, other than grain, unloaded at Atlantic and Gulf ports in November this year totaled 39,544 cars, compared with 39,121 cars last year, or an increase of 423 cars. Cars of grain for export unloaded in November at these ports amounted to 2,176 compared with 10,874 in November last year, a decrease of 80 per cent.

"No congestion or delay to traffic exists at the ports, due to the co-operation of steamship lines, port authorities, exporters and shippers," the A. A. R. statement said.

Financing Central Greyhound's New Terminals

The Central Greyhound Lines, affiliate of the New York Central, has been authorized by the Interstate Commerce Commission, Division 4, to issue not exceeding $369,000 of real estate mortgage notes to finance purchases of land and construction of bus terminals in Buffalo, N. Y., and Syracuse.

I. C. C. Issues Form for Water Carrier Exemption Applications

The Interstate Commerce Commission, Division 4, has prescribed a form for the filing of applications for exemption of transportation by contract carriers by water from the Interstate Commerce Act's new Part III. The form to be used for applications under section 303(e) of the act is Form B. W. C. 1.

Railroad Coal Marketing Rules Are Interpreted

The Director of the Bituminous Coal Division of the Department of the Interior has made public an interpretation of Section XI of the Marketing Rules and Regulations with respect to the substitution of railroad fuel without prior approval of the Director. The interpretation is in three parts and is technical in nature.

November Employment 0.48 Per Cent Above Last Year

Railroad employment decreased 2.69 per cent—from 1,072,590 to 1,043,733—during the one-month period from mid-October until mid-November, but the November total was 0.48 per cent above that of November, 1939, according to the Interstate Commerce Commission's compilation based on preliminary reports. The index number, based on the 1923-1925 average and adjusted for seasonal variation, stood at 58 in November, as compared with October's 58.4 and November, 1939's 57.8. Based on the 1935-1939 monthly average as 100, the seasonally-adjusted November index was 101.6, as compared with October's 102.2 and November, 1939's 101.1.

The largest factor in the 2.69 per cent decline in November employment under October was the 12.14 per cent drop in the maintenance of way and structures group. The maintenance of equipment and stores group was down 1.04 per cent, while the transportation group embracing yardmasters, switch-tenders and hostlers was up 1.29 per cent. All other variations from the previous month were less than one per cent. Meanwhile November employment in all groups save maintenance of equipment and stores (down 1.15 per cent) was slightly above that of November, 1939, the largest increase being the 2.1 per cent rise in the transportation (other than train, engine and yard) group.

I. C. C. Approves R. E. A. Motor Carrier Operation

The Railway Express Agency, Inc., has been authorized by Division 5 of the Interstate Commerce Commission to operate as a common carrier by motor vehicle of general commodities, moving in express service, between Williamsport, Pa., and Elmira, N. Y., and between Hackensack, N. J., and Spring Valley, N. Y., over regular routes, with service to certain intermediate points.

Refuses to Reopen North-South Divisions Case

The Interstate Commerce Commission has denied the petition of the southern railroads asking that the No. 24160 proceeding involving divisions of joint interterritorial rates between Official and Southern territories be reopened for reconsideration on further hearing and reargument. Details of the original decision of the commission were given in the *Railway Age* of August 26, 1939, page 320.

Painted Wheels Render Car Retarders Ineffective

The Association of American Railroads, Mechanical division, reports in a circular letter from Secretary V. R. Hawthorne, dated December 5, that some difficulty is being experienced in controlling cars (especially when loaded) through car retarder devices in cases where the wheels have been newly painted. The Arbitration Committee has ruled that resulting damage to cars, where no failure of the retarder itself, or its method of operation, is involved, shall be the responsibility of the car owner, providing a Rule 44 combination is not reached. The committee suggests that member roads make arrangements to protect both the outside and inside surfaces of wheel rims by metal shields or other device while trucks are being painted.

Burlington Adds Lincoln-Chicago Zephyr

The "Ak-Sar-Ben Zephyr," composed of lightweight and standard passenger cars and drawn by a Diesel-electric locomotive, was placed in operation between Lincoln, Neb., and Chicago by the Chicago, Burlington & Quincy on December 11 on a schedule of 9 hr. 1 min. for the 551 miles. The train leaves Lincoln at 11 a. m. and Omaha at 12:01 p. m. and arrives in Chicago at 8:01 p. m.

On the same day the Burlington speeded up the "Exposition Flyer" 2⅝ hr. or to 9⅛ hr. between Chicago and Lincoln. This train now leaves Chicago at 12:35 p. m. as formerly and arrives in Omaha at 8:35 p. m. instead of 10:50 p. m., and Lincoln at 9:55 p. m. instead of 12:35 p. m. The schedule of this train beyond Lincoln has not been changed.

Freight Car Loading

Loading of revenue freight for the week ended December 7 totaled 738,513 cars, the Association of American Railroads announced on December 12. This was an increase of 9,988 cars, or 1.4 per cent, over the preceding week, an increase of 54,540 cars, or 8 per cent, above the corresponding week in 1939 and an increase of 119,549 cars, or 19.3 per cent, above the same week in 1938.

As reported in last week's issue, the loadings for the previous week ended November 30 totaled 728,525 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loadings

For Week Ended Saturday, November 30

Districts:	1940	1939	1938
Eastern	157,795	154,269	141,660
Allegheny	154,667	158,137	119,793
Pocahontas	48,273	45,130	46,230
Southern	107,915	96,331	97,762
Northwestern	91,074	76,916	80,663
Central Western	117,586	105,663	110,327
Southwestern	51,215	49,050	52,099
Total Western Districts	259,875	231,629	243,089
Total All Roads	728,525	685,496	648,534
Commodities:			
Grain and grain products	33,689	38,222	35,769
Live stock	15,739	13,554	16,681
Coal	143,746	132,677	143,151
Coke	12,687	11,747	7,927
Forest products	38,521	34,764	28,728
Ore	17,684	11,632	9,307
Merchandise l.c.l.	149,915	149,510	152,737
Miscellaneous	316,544	293,390	254,234
Nov. 30	728,525	685,496	648,534
Nov. 23	733,488	673,113	561,658
Nov. 16	745,295	766,987	657,066
Nov. 9	778,318	781,588	636,446
Nov. 2	794,797	801,108	672,967
Cumulative Total, 48 Weeks	33,635,702	31,349,937	28,158,458

In Canada.—Carloadings for the week ended November 30 totaled 61,121, as compared with 63,088 in the previous week and 55,115 a year ago, according to the compilation of the Dominion Bureau of Statistics.

Total for Canada	Total Cars Loaded	Total Cars Rec'd from Connections
Nov. 30, 1940	61,121	27,309
Nov. 23, 1940	63,088	27,369
Nov. 16, 1940	55,594	25,774
Dec. 2, 1939	55,115	24,927
Cumulative Totals for Canada:		
Nov. 30, 1940	2,595,715	1,190,391
Dec. 2, 1939	2,367,959	1,033,693
Dec. 3, 1938	2,277,776	989,361

Col. Bush Passes at 79

Colonel Lincoln Bush, one-time chief engineer of the Delaware, Lackawanna & Western, and designer of the so-called Bush platform shed for use at larger passenger stations, died at his home in East Orange, N. J., on December 11, after a short illness, at the age of 79. Born in Illinois in 1861, Mr. Bush graduated from normal school and from a civil engineering course at the University of Illinois and entered railroad service in 1888 with the Union Pacific as assistant engineer, maintenance of way, Wyoming division, becoming assistant engineer on location, Pacific Short Line one year later. For several years he interrupted railroad service to instruct in descriptive geometry at the University of Illinois; served as assistant engineer with E. L. Corthell in bridge work at Chicago, as chief draftsman, designer and estimator with the Pittsburgh Bridge Company and draftsman with the Chicago Drainage Canal.

In 1896 Mr. Bush returned to railroad service with the Chicago & Northwestern

as assistant to the bridge engineer at Chicago, becoming acting division engineer of the Iowa division in 1899. Later that year he went with the Delaware, Lackawanna & Western as bridge engineer, subsequently becoming principal assistant engineer in 1900, and chief engineer in 1903. In 1909 Mr. Bush terminated his connection with the Lackawanna to engage in private practice as a consulting engineer in New York. During the World War he served with the United States War Department and the Army becoming Colonel, Quartermasters Corps. In 1919 he resumed private practice in New York and in 1920 became president, Bush, Roberts Schaefer, continuing active therein until retirement several years ago.

Another Report on Railroad Writedowns

The Bureau of Finance of the Interstate Commerce Commission has issued another compilation showing the reduction in the capitalization and annual fixed charges of those roads now in the process of reorganization under section 77 of the Bankruptcy Act, as of October 31. A previous compilation showing their status as of July 31 was published in the *Railway Age* of September 7, page 344. The commission's latest figures follow:

Change in debt and annual fixed charges under plans of reorganization approved by the Commission, or proposed by examiners, for railroads in reorganization proceedings before the Commission.

As of October 31, 1940

	Debt (a)		Annual Fixed Charges	
Plans Approved by Commission:	Before Reorganization (b)	After Reorganization	Before Reorganization	After Reorganization
Akron, C. & Y.(x)	$13,312,581	$3,997,500	$364,956	$170,965
Boston & Providence	2,338,186	.....(c)	.....	.....
Chicago & E. I.	67,020,834	28,071,500	2,248,798	662,869
Chicago & North Western	431,390,104	222,078,460	16,549,740	3,382,079
Chicago Great Western	48,050,452	27,190,268	1,898,783	849,000
Chicago, M., St. P. & P.(x)	626,926,331	224,037,950	14,954,451	4,269,654
Chicago, R. I. & P.(x)	424,920,491	124,943,184	14,426,546	2,340,519
Chicago, S. S. & S. B.	5,604,447	1,553,800	334,117	106,503
Copper Range	2,280,000	.....	107,975	600
Denver & R. G. W.(x)	171,934,879	76,232,510	6,524,415	1,278,539
Erie (Incl. Chicago & Erie)	304,981,178	191,277,279	13,593,536	7,520,226
Kansas City, K. V. & W.	717,062	31,895	25,676	1,500
Louisiana & N. W.	2,319,394	968,980	112,413	34,822
Missouri Pacific (x)	660,897,056	308,221,500	24,770,052	7,286,804
New York, N. H. & H.(x)	390,447,466	230,352,566(c)	13,521,947	6,353,899
Oregon, P. & E.	914,674	.....	16,501	.....
Reader	43,400	38,400	2,595	2,400
St. Louis-San Francisco (x)	373,727,922	116,071,204	12,613,106	3,000,117
Savannah & Atl	8,106,805	1,388,000	251,968	81,498
Spokane Int. (x)	7,996,994	2,846,400	273,155	.....
Western Pacific	95,698,299	33,969,125	3,634,750	494,202
Examiners' Proposed Plans:				
Alabama, T. & N.	5,634,270	1,262,870	243,871	50,515
Fort Dodge, Des M. & S.	9,085,547	1,695,000	282,693	.....
St. Louis Southwestern (x)	76,820,978	32,725,250	3,248,668	1,330,330
Yosemite Valley	3,102,936	1,159,000	116,938	.....
Total	$3,734,272,286	$1,630,112,641	$130,117,650	$39,217,041

(a) Does not reflect current operating obligations to be assumed by the new company.
(b) Includes unpaid interest, dividends, etc.
(c) N. Y., N. H. & H. includes $4,506,733 of bonds to be issued in acquisition of the Boston & Providence properties.
(x) Includes obligations of subsidiary companies, as shown in the plan approved or recommended.

New C. & E. I. Gets Assets December 31

The federal district court at Chicago on December 9 issued an order instructing the trustee of the Chicago & Eastern Illinois to turn over most of the assets of the bankrupt company to the newly incorporated company on December 31. On January 2, after interest day, the remainder of the assets, consisting of $1,125,000 of bonds, are to be surrendered. On March 1, the court will sign the final decree which will end the receivership of this railroad which started in 1933. Under the reorganization committee's program, the printing of mortgages, the deed and new securities and the closing of the R. F. C. loan will be completed by January 6, the exchange of old bonds and preferred stock by January 15; and the listing of new securities, the filing of a final fee applications and a final decree by March 1.

Ask for No Hearings in Tariff Posting Case

After having ascertained that the shippers of the country through the National Industrial Traffic League have no objection to their request for a modification in the Interstate Commerce Commission's tariff posting regulations, the Association of American Railroads and the American Short Line Railroad Association have asked the commission to amend their original petition of October 16, details of which were given in the *Railway Age* of October 26, page 601, by eliminating a request for a hearing or hearings.

At the same time the carriers ask leave to further amend their original petition by striking from Exhibit C "New Orleans, La." from the list of "points at which complete files are to be maintained" by the "Texas & New Orleans," leaving Houston, Tex. as the only point so designated for that company.

Mo. P. Land-Grant Release Claim Is Approved

Secretary of the Interior Harold L. Ickes has approved a land-grant release claim submitted by the Missouri Pacific, under which it may now take advantage of the land-grant-rate-repeal provisions of the Transportation Act of 1940. The land-grant territories covered in the Missouri Pacific release embrace areas traversed by some of the road's predecessors or subsidiaries. The original grantee roads and the location of their land-grant covered by the release are as follows:

(1.) Cairo & Fulton, from Bird's Point, Mo., opposite the mouth of the Ohio river, and Cairo, Ill., by way of Little Rock, Ark., to Texarkana, Ark.

(2.) The Little Rock & Fort Smith, between those two cities in Arkansas.

(3.) The Pacific Railroad of Missouri, from St. Louis, Mo., to Pacific.

(4.) The Central Branch of the Union Pacific, from Atchison, Kans., to Waterville.

A. A. R. Section Elects Officers

W. K. Etter, of Chicago, vice-president of the Atchison, Topeka & Santa Fe, and R. W. Brown, of Philadelphia, vice-president of the Reading-Central of New Jersey, have been elected chairman and vice-chairman, respectively, of the Operating-Transportation Division of the Association of American Railroads, according to an announcement this week by L. R. Knott, secretary of the division.

Re-elected to the division's general committee were John Cannon, of St. Louis, chief operating officer of the Missouri Pacific; G. Metzman, of Chicago, assistant vice-president of the New York Central; N. B. Walton, of Montreal, Canada, vice-president of the Canadian National, and W. A. Worthington, of San Francisco, vice-president of the Southern Pacific.

W. H. Guild, of Omaha, Nebraska, vice-president of the Union Pacific, and F. R. Mays, of Chicago, vice-president and general manager of the Illinois Central, were named to fill vacancies on the committee caused by the retirement of two members.

New York to Open New Sixth Avenue Subway

The new 53½ million dollar Sixth avenue section of New York's municipally-owned and operated rapid transit system will be placed in operation at 12:01 a. m. tomorrow (Sunday, November 15). Costing about $21,000,000 for each of its 2¼ miles, the new line is considered the most expensive in the world. Chief reasons for the high cost were the congested nature of the territory; the presence of an overhead elevated line which had to be shored up at the cost of about $4,000,000 until its demolition two years ago, re-construction of portions of the Hudson & Manhattan which shares Sixth avenue with the new subway and burrowings under or over five existing subway lines and the Pennsylvania-Long Island tunnels.

The new line doubles the carrying capacity of the so-called "Independent" system in mid-town Manhattan and serves directly large business, shopping, and entertainment centers. With its opening the city-built system, first planned in 1921, and costing about $700,000,000 to date, is considered complete.

General Revision of Rules for Transportation of Explosives

The Interstate Commerce Commission has announced that its revised regulations for the transportation of explosives and other dangerous articles will become ef-

fective on January 7, 1941. The 219-page book embodying the new rules applicable to rail, express and highway transportation was made public last week, at which time the commission also issued in mimeographed form revised rules to apply to water carriers from January 7, 1941, until April 9, 1941.

On the latter date the commission's authority over the transportation of explosives and other dangerous articles by water will, under a recently-enacted law, be transferred to the Secretary of Commerce. The book embodying the rail, express and highway regulations is being sold by the Superintendent of Documents, Government Printing Office, Washington, D. C., at 40 cents per copy; its full title is: "Regulations for Transportation of Explosives and Other Dangerous Articles by Land and Water in Rail Freight, Express and Baggage Services and by Motor Vehicle (Highway) and Water—Including Specifications for Shipping Containers."

October Accident Statistics

The Interstate Commerce Commission on December 6 made public its Bureau of Statistics' preliminary summary of steam railway accidents for October and this year's first 10 months. The tabulation, which is subject to revision, follows:

Item	Month of October		10 mos. ended with October	
	1940	1939	1940	1939
Number of train accidents	629	694	5,721	4,922
Number of casualties in train, train-service and non-train accidents:				
Trespassers:				
Killed	180	214	1,770	2,021
Injured	152	187	1,791	2,030
Passengers on trains:				
(a) In train accidents*				
Killed	...	2	66	13
Injured	113	54	758	640
(b) In train-service accidents				
Killed	...	2	8	10
Injured	124	135	1,391	1,404
Travelers not on trains:				
Killed	...	1	4	9
Injured	53	78	675	671
Employees on duty:				
Killed	46	48	430	412
Injured	1,619	1,608	14,640	13,837
All other non-trespassers:**				
Killed	180	152	1,565	1,199
Injured	633	552	4,853	4,302
Total—All classes of persons:				
Killed	406	419	3,843	3,664
Injured	2,694	2,614	24,108	22,884

* Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former cause damage of more than $150 to railway property.

** Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and nontrespassers,* were as follows:

Persons:				
Killed	170	137	1,419	1,097
Injured	484	387	3,491	3,020

Club Meetings

The Railway Club of Pittsburgh will hold its next meeting at the Fort Pitt Hotel, Pittsburgh, Pa., on December 19 at 8 p. m. A. H. Woollen, engineer development division, Aluminum Company of America, Pittsburgh, will present a paper entitled "Aluminum in Railroad Service," which will be illustrated by sound moving pictures entitled "Aluminum from Mine to Metal and Aluminum Fabricating Practices" and "The Templin Precision Metal Working Machine." Dinner will be served at the hotel for members and guests at 6:30 p. m.

The Car Foremen's Association of Omaha, Council Bluffs and South Omaha Interchange will hold its next meeting on January 10 at the Burlington passenger depot, Omaha, Neb., at 1:45 p. m. A. A. R. rules will be discussed.

The Car Department Association of St. Louis, Mo., will hold its next meeting on January 21 at the Hotel DeSoto, St. Louis, Mo., at 8 p. m. G. C. Hazard, Socony-Vacuum Oil Company, will present a paper entitled "The Inside Story of Lubrication of Railroad Equipment and Diesel Engines," illustrated by motion and slide pictures. Dinner will be served prior to meeting at 6 p. m.

N. Y. Central To Run Snow Trains To 30 Points

The New York Central opened its snow train season out of New York for the year on December 13, to be continued until April 10. Schedules this year comprise trains to 30 destinations, including an entirely new ski development center to be known as Farnam's in-the-Berkshires. Immediately adjoining a new station erected by the Central and its affiliated Boston & Albany north of Pittsfield, Mass., the new center has the advantage of permitting skiers to get right down to business without bus or taxi trips from the station. One-day schedules from the city have been arranged to afford an entire afternoon at the new ski run.

Other one-day destinations to be served include Woodstock, N. Y., and Phoenicia, in the Catskills, and Bear Mountain, located about 40 mi. from New York on the West Shore. Week-end trips are arranged to points in the Adirondacks, Berkshires, Green mountains of Vermont and Canadian resorts on the Laurentians.

Central snow train patronage totaled 21,230 passengers in the 1939-1940 season, as compared with 12,123 the previous year.

Jones Suggests Lower Interest Rates for Railroads

Hope was held out by Jesse Jones, Federal Loan Administrator and Secretary of Commerce, in a speech at the annual convention of the Association of Life Insurance Presidents at the Waldorf-Astoria Hotel in New York City on December 5, that the railroads may soon be able to borrow money from the Reconstruction Finance Corporation at a lower rate than the present one of four per cent. Mr. Jones went on to point out that in his opinion the present four per cent rate was "a high rate on a good loan" and added that the insurance company presidents must agree with him, as they made many loans at substantially lower rates.

"We have been considering reducing our rates on thoroughly sound railroad obligations," declared the Federal Loan Administrator. "Our railroads are having difficulties enough, as you may well know, meeting new competitions from the highways and the airways, and in a continually narrowing spread between income and the cost of operation. The railroads are necessary, and if the government must help them, one way of doing it without cost to the taxpayer is by providing senior money at lower interest rates. And while on the subject of interest, there should be more uniformity in the rates. A note or a bond can be no better than good, yet the great majority of borrowers are those that are required to pay the high rates. The blue-chip corporations, that least need low rates, are favored with them."

Would Bring Loaders and Helpers Under I. C. C. Hours Rules

Loaders and helpers would be the only non-driver employees of motor truck operators brought under the Interstate Commerce Commission's hours-of-service regulations, if the commission accepts the recommendations of a proposed report by Examiner R. W. Snow. Meanwhile the examiner would have the commission find also that no employees of common or contract carriers of passengers other than drivers are subject to such regulations.

The proposed report comes in the reopened Ex Parte MC-2 and Ex Parte MC-3 proceedings, dealing respectively with hours of service of motor carrier employees and regulations to promote safety of operation of private trucks operating in Interstate Commerce. After the Supreme Court had upheld the commission in its contention that the Motor Carrier Act's hours-of-service provisions applied only to workers whose activities affected safety of operation, the commission granted petitions for the reopening for the purpose of determining whether or not any motor carrier employees other than drivers should be covered.

After tracing the history of the pertinent provisions of the act, Examiner Snow recommended a finding that as a matter of law the term "safety of operation" means "the safety of operation of motor vehicles." From that he followed through to the other recommended findings, noted at the outset. Concluding, the proposed report said that no order is necessary at this stage of the proceeding. It added that the commission should again assign the case to an examiner for a hearing to determine what regulations should be prescribed applicable to the truck loaders and helpers.

Santa Fe Streamlined Trains Complete 10,000,000 Miles

The completion of 10,000,000 miles of rail travel by the 16 streamlined trains of the Atchison, Topeka & Santa Fe was celebrated by 1,200 business and industrial leaders at a luncheon given by the Los Angeles Chamber of Commerce in that city on December 11. T. B. Gallaher, passenger traffic manager, made an address of welcome, Rudy Vallee acted as master of ceremonies during the entertainment program and Fred G. Gurley, vice-president, outlined the progress made by the Santa Fe in developing streamlined train travel in recent years. He pointed out that since May 12, 1936, when the first Super Chief made its initial run from Chicago to Los Angeles, a grand total of 10,423,399 miles had been rolled up by the company's fleet of 16 lightweight passenger streamliners. He said that the Santa Fe now operates

59 Diesel units producing 72,300 horsepower. In addition, the railway has on order 4 road passenger units, 8 freight units and 3 switchers which will bring the total to 74 Diesel power units, aggregating 92,800 horsepower.

When the Diesel road freight units are delivered, he continued, the Santa Fe will be the first railroad in the history of transportation to have Dieselized operation in all branches of rail service. The railway, he said, is also the only one in the country which owns and operates a completely equipped "Square roundhouse" for servicing and repairing Diesel power. This Diesel shop is located in Chicago.

Norris is Injured in Southern Derailment

E. E. Norris, president of the Southern, received a fractured leg and O. B. Keister, general manager at Knoxville, Tenn., and W. F. Cooper, superintendent at Atlanta, Ga. were severely shaken up on December 10, when two of the company's office cars in which they were riding together with several sleeping cars and a dining car of the Ponce de Leon No. 1, southbound from Atlanta, left the rails because of a broken equalizer at Ellenwood, Ga., a station on the Southern's main line about 12 miles south of Atlanta. At the time of this writing Mr. Norris and his party were receiving treatment at Emory Hospital in Atlanta, and company officers said that all except Mr. Norris were expected to be released immediately. No one except Mr. Norris was seriously hurt, but all received a good shaking up and experienced some bruises and cuts.

Company officers gave the cause of the accident as a broken equalizer on the forward truck of the dining car which was the seventh car from the rear of the train. The equalizer broke, dropped down and caught in a frog, derailing the dining car, which stood upright. The first three sleepers behind the diner also stood upright, but were leaning on their left sides. Next in line were the two company office cars which were also derailed and came to rest on their left sides. In the two office cars were Mr. Norris, Mr. Keister, Mr. Cooper, and their staff. The accident, which occurred on a small bridge over a creek, tore up the track for some 400 ft.

Court Holds Up Georgia Gas Pipe Line

The Southeastern Pipe Line Company, controlled by the Gulf and Pure Oil Companies, has again been balked in its attempt to put through a gasoline pipe line from Port St. Joe, Fla., through Georgia to Atlanta and Chattanooga, Tenn., by a recent decision of the state Supreme court which held that the company must await legislative authority to bisect railroads or highways or to otherwise exercise the right of eminent domain. The railroads and the state Highway Commission contend that the pipe line does not and should not have such authority since it is not truly a common carrier. This ruling is of a similar character to that of the United States District Court at Savannah on February 13, which held that present state statutes do not give the pipe line company the authority which it claims is contained therein (see *Railway Age* for February 24, page 385).

It is expected that the company will seek to have a bill introduced in the Georgia legislature next January which will either clear up apparent ambiguities in the law or establish specific right of eminent domain.

There has also been a contest between the Richfield Oil Company and the Western Maryland over an attempt of the former to construct a pipe line whose right-of-way crosses the tracks of the latter. The oil company filed injunction proceedings on November 29 in the federal circuit court to enforce alleged right-of-way rights bisecting tracks of the defendant railroad company at Curtis Bay, Md. The suit alleges that employees of the railroad attempted to tear up the pipe line which had been installed under its tracks.

American Transportation Society Planned

Plans for establishing a scientific organization, the American Transportation Society, with a national scope were discussed at a meeting in Chicago on November 29. The purpose of this organization is to provide a scientific professional society merging the progressive open minds of persons actively engaged in land, air and water transportation either as producers or consumers or as students thereof. The society will provide a channel for the stimulation and free dissemination of ideas for the improvement and co-ordination of transportation contributing toward the public welfare, for the encouragement of educational courses in all fields of transportation, and for the stimulation and recognition of scientific research in all phases of transportation.

The society will have chapters in major cities located in various sections of the United States, where meetings will be held periodically. Scholarly papers of a scientific or technical nature dealing with national or local transportation subjects will be carefully prepared and presented by members at meetings of the various local chapters. All such papers presented before chapter meetings will be submitted promptly to the national headquarters of the society, where the editor of the society's journal will select and prepare the best of them for monthly publication and distribution to the entire membership of the organization. Stanley Barge, manager of traffic research of the Illinois Central, acted as temporary chairman of the meeting.

Mexican Employees Submit Reorganization Plan

Following the rejection by the Mexican government of a plan of reorganization for the National Railways of Mexico, submitted by the Union of Railroad Workers of Mexico, and the making of a counter proposal by the government, as reported in the *Railway Age* of November 2, page 654, the Union has formulated another plan calling for economies aggregating 2,345,000 pesos per month. The expenses to be reduced include: non-professional illness, 50,000 pesos; Mixed Committee of Appelations, 5,000 pesos; overtime pay, 40,000 pesos; employees' road expense, 10,000 pesos; per diem, 150,000 pesos; materials, 1,200,000 pesos; track ties, 400,000 pesos; vacations, 250,000 pesos; and salaries, 240,000 pesos. In addition, 40,000 pesos will be saved monthly through a reduction in personnel. The 1,200,000 pesos comprises a transfer of monthly purchases from operating expenses to a deferred payment account which is covered by a proposed deposit plan that insures the payment of materials purchased from American firms on credit. The 400,000 pesos represents two months' purchase of ties that will be eliminated by using stock on hand. The economies of 250,000 pesos and 240,000 pesos are subject to the approval of the 36 sections of the Union.

The operating revenues of the National Railways of Mexico amounted to $13,621,940 in August and operating expenses amounted to $11,434,413, while net operating revenues amounted to $2,187,526. For the first eight months of 1940 operating revenues amounted to $109,217,969, operating expenses to $92,787,218 and net operating revenues to $16,430,750.

Retirement Board Operations

Collections under the Carriers Taxing Act in September were $24,586,829, making a total for the July-September quarter of $32,168,522, and a total for the entire period of operation through September 30 of $412,869,059, according to the latest issue of the Railroad Retirement Board's "Monthly Review."

The collections for the quarter were 11.4 per cent larger than collections in the corresponding period last year. About nine per cent of the increase is accounted for by the rise in the tax rate from 2¾ to three per cent effective last January, and the remainder to the improvement over last year in employment and compensation in the railroad industry. Total benefit payments certified to the Treasury during September amounted to $10,069,473, bringing to $29,828,510 the total for the July-September quarter, and to $338,154,367 the total certified from the beginning of operation through September 30, 1940.

More than $14,600,000 in contributions from employers was credited to the unemployment insurance account in the period July-September. Almost $44,000,000 in addition was transferred to the account during the quarter from State unemployment reserves. The balance in the account at the end of the quarter was $87,316,890. Unemployment benefit payments in September amounted to almost $992,000 on 66,336 claims, an average of $14.95, compared with the August average of $14.61. The higher average in September is attributed to an increase in the proportion of certifications with continuous unemployment in the half-month. September claims receipts dropped to a weekly average of 22,721 from a weekly average of 24,240 in August, mainly because of a rise in railroad employment.

Forty-one per cent of the beneficiaries under the retirement act on June 30 were concentrated in five states, Pennsylvania, New York, Illinois, Ohio, and California. Almost 40 per cent of the railroad employees in the country live in these states. Pennsylvania leads for every type of an-

nuity. The monthly amount payable on annuities and pensions in Pennsylvania is about twice the amount payable in New York, the next highest state.

Kuhler Speaks His Mind on Styling

A frank discussion of what is needed to make cars, locomotives and stations truly modern and a critical analysis of that which is accepted as modern today featured an address by Otto Kuhler, pioneer railroad "stylist" of New York, before the New York Railroad Club on November 29. Titling his talk "We Streamlined—Now What?" the speaker first reviewed what has been accomplished in the railroad field since 1935, when in a previous address before the club he stated that in the passenger's mind the only favorable improvement in passenger cars was the slot in Pullmans for used razor blades. While admitting that great progress has been made since that time, he contended that a great deal remained to be done.

The speaker supported the general principle that the job was not so much one of bringing new things into the coach, as of "throwing the old stuff out." He asserted that "right now I am chasing such nuisances as heater ducts," in which connection he has passed on some basic ideas to manufacturers in the hope that shortly new units—hidden for appearance, easy maintenance and sanitary reasons—will be available. He also criticized present reclining seats, which, he claimed, if used for sleeping, so place the body that normal blood circulation is disturbed. The answer, he said, is provision of foot rests and a reclining position that balances body weight in natural position.

The latter half of Mr. Kuhler's address was devoted to modernizing of station buildings, which material was presented in a signed article appearing in the *Railway Age* of November 30, page 830.

Crack-Down on Forwarder-Truck Joint Rates Again Postponed

With a warning that interested parties should not rely upon any further extensions, the Interstate Commerce Commission has again postponed from December 11 until February 28, 1941, the effective date of its outstanding orders which require the discontinuance of joint-rate arrangements between forwarders and motor carriers. The orders are in Ex Parte No. MC-31, Tariffs of Forwarding Companies, and MC-2200 which involves tariffs of Acme Fast Freight; and the commission's latest delaying action, according to a notice from I. C. C. Secretary W. P. Bartel, is designed to afford an opportunity for action on forwarder regulation by the new Congress which convenes in January.

"Extension of the effective dates of these orders," Secretary Bartel said, "has permitted joint rates between forwarding companies and motor carriers to be maintained which were found to be unlawful by the commission, a finding which was affirmed by the Supreme Court. Because of the apparently serious effect which discontinuance of these joint rates would have upon the forwarders, the motor carriers participants with them in the joint rates involved, and those who utilize the service thus afforded, it was thought that such an extension was justified in order to give all concerned adequate opportunity to adjust their affairs to new conditions which will comply with the law, and also, and more particularly, because legislation for relief appeared to be imminent in Congress. The commission was so advised by the chairman of the House committee on interstate and foreign commerce. Such legislation was passed by the House of Representatives early in October and in the Senate was referred to the committee on interstate commerce. The commission extended the effective date of the orders until December 11 in anticipation of action by the committee on interstate commerce on that legislation. No action has been reported, but it appears that conditions have been such as to make deliberations difficult. The commission is now further extending the date until February 28, 1941, thus affording opportunity for action by the new Congress. Those concerned in this matter should not rely upon any extension of the effective date of these orders beyond February 28."

Mediation Board Decision on Lehigh Valley

The National Mediation Board has decided that certain employees who have worked for the Lehigh Valley during the period from January 1, 1940, to September 16, 1940, although they may now be on furloughs, are entitled to vote in an election to determine which of two unions shall represent a particular class of employees in collective bargaining.

The decision of the board on December 3 reveals that its services were invoked by the Railway Employees' Department, American Federation of Labor, to settle a dispute as to whether the International Brotherhood of Blacksmiths, Drop Forgers and Helpers, the International Brotherhood of Boilermakers, Iron Ship Builders and Helpers of America and the Sheet Metal Workers' International Association, operating through the Railway Employees' Department, A. F. of L., may represent, respectively, the blacksmiths, boilermakers and sheet metal workers and the helpers and apprentices of the foregoing, employed by the Lehigh Valley.

Mediator James P. Kiernan found, after investigation, that the employees involved in the dispute are at present represented by the Association of Maintenance of Equipment Employees of the Lehigh Valley.

The board goes on to point out that it is the position of the Association that the list of eligible voters should contain only the names of employees who were on the payroll of the carrier as of the last of the month of September, 1940, including men now in service, those on authorized leaves of absence, those on sick leave, those on the injured list, and those who had been in the services of the company on the above date but had left to enlist in the United States Army or Navy. The Railway Employees' Department contends on the other hand that the list of eligible voters should contain those names which appeared on the payroll for the last period of September, 1940, including those on sick leave, or other authorized leave of absence and those who have worked for the carrier during the period from January 1, 1940, to September 16, 1940, and who were then on furlough on account of reductions in force.

The Board decided to use the January 1, 1940, date because of the fact that in another election involving, among others, these same employees, it had used this date. After the election had gotten under way the Association protested this action and asked for a public hearing, which was held on November 25 before Board Member David J. Lewis.

After testimony of both the employees and J. P. Laux, superintendent of motive power of the Lehigh Valley, to the effect that it was the established policy of the carrier to recall furloughed employees to service when forces are increased and that furloughed employees retain their seniority rights, the Board decided to abide by its previous finding and permit the election to be held at some future date. The votes already cast will be allowed in the new election.

Rules Issued for the Filing of Water Carrier Rates

Tentative rules for the construction, filing and posting of schedules of minimum rates charged by contract carriers by water have been prepared and made public by the Bureau of Traffic of the Interstate Commerce Commission. This action was made necessary by the enactment of section 306(e) of Part III of the Transportation Act of 1940 which requires that such schedules shall be posted with the commission after January 1, 1941. A statement signed by W. P. Bartel, secretary of the commission, points out that the tentative rules, which have not yet received the approval of the I. C. C., were worked out after discussion of the subject with a few representatives of the contract carriers by water and with officials of the United States Maritime Commission, which has jurisdiction over common carriers by water in coastwise and intercoastal service.

The statement of Secretary Bartel goes on to state that it is probable that no rules will be adopted by the commission at this time for application to tariffs of common carriers now filed with the Maritime Commission, it being the thought of the commission that such tariffs may well be merely transferred to the commission and remain subject to the rules of the Maritime Commission for the present.

The suggested contract carrier rules, explains Secretary Bartel, "have purposely been made as brief and simple as possible to permit the prompt filing of initial schedules and to avoid as far as possible complications and difficulties in preparing and filing such schedules. Only seven rules are suggested in contrast with 29 effective rules governing the filing of freight tariffs by common carriers by railroad or by water. Further, a number of the rules have to do only with changes in schedules after the initial filing. These are rules 1(b), 2 and 3(b), 3(c), 3(g) and 7. It follows that in preparing initial schedules these particular rules may be disregarded. The proposed rules represent largely directions as to arrangement, and, if adopted, will, for the present, be the only requirements of the commission as to filing and posting

contract carrier schedules, there being no intention of prescribing any particular forms or blanks for use in preparing schedules."

As the carriers have the right in the first instance to decide for themselves whether they are common or contract carriers, the tentative rules are being distributed to all known carriers by water for hire that probably, in the commission's opinion, are either common or contract carriers as defined in Part III of the act, except a few which are "unquestionably" common carriers.

Since the rules represent the "best judgment" of the officials of the Bureau of Traffic and have not been adopted officially by the commission, comment from water carriers is invited. This should reach the commission not later than December 13. The statement also says that if any companies wish to send a representative or a committee, the commission will be glad to meet with them and discuss the proposed regulations.

Meanwhile, the Bureau of Traffic has also made public tentative rules for the preparation of common carrier tariffs applicable to traffic not now subject to the jurisdiction of either the Interstate Commerce Commission or the Maritime Commission. The same general comments attached to the above-mentioned rules are also included with these rules. Comment is invited on the tentative rules and should reach the commission not later than December 16.

F. D. R. to Push The Big Ditch

(*Continued from page 908*)

means a more secure nation. It means a continent protected and served by the additional shipping built in inland shipyards. It means more industries, both defense and domestic, thriving on the cheapest power in history. It means more comforts in the homes of many cities and rural areas. It means more work for the ordinary citizen in shipyards, factories, and other transportation services connecting the center of this continent with this great highway to and from our national and international markets.

"I am preparing to press for the immediate construction of this project. Because of its vital defense character I have allocated one million dollars of the defense funds made available by the Congress to make the necessary engineering surveys and to prepare the preliminary plans and specifications so that no time may be lost in starting the undertaking.

"I am conducting conversations with our neighbor Canada to work out the international aspects of the development of this great common asset. I shall propose to the Congress of the United States, which will assemble in January, that it take the necessary steps toward completion of this St. Lawrence seaway and power project, on which so much of our national safety and welfare depend."

Adding his own comments, Messenger Boy Berle ventured the remark that those who point to the installation of steam power plants as a faster method of getting productive capacity are "very badly informed." Said he: "If you tried to buy steam-power plant units today you would find that you could not get deliveries until long after power will be actually available from the Great Lakes-St. Lawrence overflow. In urging that the power development be done now, we are getting our power in the quickest way we can get it."

In answer to the President's message John D. Battle, executive secretary, National Coal Association, issued a statement on December 7 reading in part: "Surely there can be no need for devising *new sources* of power so long as the nation's premium power medium and greatest natural resource—bituminous coal—remains close at hand in virtually inexhaustible supply.

"There can be no escape from the self-evident truth that the only way that the St. Lawrence hydro project and seaway can be brought into being with any degree of immediacy—that is to say within five or six years—is by diverting to its construction men and materials in huge amount—now needed in present shipbuilding, present aircraft construction, present munitions plants and other things in these categories. It means sacrificing immediate and super urgent construction in order to embark upon a long-range project which is by no means so feasible and so advantageous as is now made to appear."

I. C. C. Acts in Motor Carrier "Proportionals" Case

The Interstate Commerce Commission has issued an order in No. 28496, Proportional Rates of Common Carriers and Minimum Charges of Contract Carriers which will have the effect of either cancelling or restricting the use of proportional rates by motor carriers. The order was issued in the 28496 case in which various proceedings involving suspended schedules wherein motor carriers are proposing to publish proportional rates and contract charges on forwarder shipments were consolidated into a general investigation for hearing on one record, details of which were given in the *Railway Age* of August 10, 1940, page 229.

Under the new order the motor carriers are required on or before February 28, 1941, upon notice to the commission and the general public by not less than 30 days' filing and posting in the manner required by law, to cancel their proportional rates, or in the alternative, to restrict their application in such manner as specifically to limit their application to portions of the hauls of through interstate shipments, the movement of which is in the same unit of shipment from the initial points of origin to the ultimate destinations of such through shipments.

The commission's order further provides that any interested party may, on or before January 10, 1941, request a hearing upon the lawfulness of any rate or rates affected by the order, specifying the rate or rates covered by such request by tariff, page, and item numbers and the commodity or commodities to which and the points between which such rates apply, in which case consideration will be given to holding a hearing with respect to the rates covered by such a request. As to such rates, the effective date of this order will be postponed until such hearing is completed and a decision thereon is reached. As to all rates affected by this order upon which a hearing is not requested on or before January 10, 1941, the order will become effective on the date specified, February 28, 1941.

In a statement accompanying the order I. C. C. Secretary Bartel explains that it is designed to "direct initial consideration along certain lines" and that the rates at which the order is directed do not purport to include all of the rates and charges comprehended by the proceeding. Other phases of the investigation, he points out, will be taken up in due course.

The statement goes on to say that if hearings are ordered in response to requests made pursuant to the proviso in the order, it is the present plan of the commission to commence them some time in March, 1941. Parties requesting hearings are asked to include in their requests their best estimates of the time which will be consumed in presenting the evidence which they intend to offer.

Three Bus Lines to Operate Over Pennsylvania Turnpike

Three bus companies, including the Pennsylvania Greyhound Lines, affiliate of the Pennsylvania, have been authorized by the Interstate Commerce Commission, Division 5, to inaugurate services between Harrisburg, Pa., and Pittsburgh on a route embracing the new Pennsylvania Turnpike. The other two companies are All American Bus Lines, Inc., and Northern Trails, Inc.

All three have other Harrisburg-Pittsburgh routes on which they do not propose to curtail service; they plan to divert to the Turnpike route only buses operated in through express service.

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

AIR BRAKE ASSOCIATION.—R. P. Ives, 350 Fifth Ave., New York, N. Y.

ALLIED RAILWAY SUPPLY ASSOCIATION.—J. F. Gettrust, P. O. Box 5522, Chicago, Ill.

AMERICAN ASSOCIATION OF FREIGHT TRAFFIC OFFICERS.—W. R. Curtis, F. T. R. M. & O. R. R., 327 S. La Salle St., Chicago, Ill.

AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS.—E. P. Soebbing, 1431 Railway Exchange Bldg., St. Louis, Mo. Annual meeting, October 21-23, 1941, San Francisco, Cal.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, C. R. R. of N. J., 143 Liberty St., New York, N. Y.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS. — F. O. Whiteman, Room 332, Dearborn Station, Chicago, Ill. Annual meeting, June 3-5, 1941, Hotel Stevens, Chicago, Ill.

AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS. — E. A. Abbott, Poole Bros., Inc., 85 W. Harrison St., Chicago, Ill.

AMERICAN ASSOCIATION OF SUPERINTENDENTS OF DINING CARS.—F. R. Borger, C., I. & L. Ry., 836 S. Federal St., Chicago, Ill.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—F. O. Whiteman, Room 332, Dearborn Station, Chicago, Ill.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York, N. Y.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION. —G. E. Smith, New York Central R. R., La Salle Street Station, Chicago, Ill.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—

Continued on next left-hand page

Photo Courtesy Southern Pacific Company

"They'll still be using steam locomotives when you grow up, Sonny. This big one behind us is one of the four daily Southern Pacific 'Daylights' that are averaging 1508 passengers a day. Maybe, when you grow up, you'll be at the throttle of a faster and more powerful Lima-built 'Daylight' than this one."

LIMA
LOCOMOTIVE WORKS
INCORPORATED
LIMA OHIO

Works in cooperation with the Association of American Railroads, Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 11-13, 1941, Palmer House, Chicago, Ill.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—M. W. Jones, Baltimore & Ohio R. R., 1105 B. & O. R. R. Bldg., Baltimore, Md.

AMERICAN RAILWAY TOOL FOREMEN'S ASSOCIATION.—G. G. Macina, C., M., St. P. & P. R. R., 11402 Calumet Ave., Chicago, Ill.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—J. H. Huntt, Tower Bldg., Washington, D. C.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—C. E. Davies, 29 W. 39th St., New York, N. Y.

Railroad Division, C. L. Combes, *Railway Age*, 30 Church St., New York, N. Y.

AMERICAN TRANSIT ASSOCIATION.—Guy C. Hecker, 292 Madison Ave., New York, N. Y.

AMERICAN WOOD PRESERVERS' ASSOCIATION.—H. L. Dawson, 1427 Eye St., N. W., Washington, D. C. Annual meeting, February 4-6, 1941, Brown Hotel, Louisville, Ky.

ASSOCIATION OF AMERICAN RAILROADS.—H. J. Forster, Transportation Bldg., Washington, D. C.

Operations and Maintenance Department.—Charles H. Buford, Vice-President, Transportation Bldg., Washington, D. C.

Operating-Transportation Division — L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Operating Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Transportation Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Fire Protection and Insurance Section.—W. F. Steffens, New York Central, Room 3317, 230 Park Avenue, New York, N. Y.

Freight Station Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Protective Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Safety Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Telegraph and Telephone Section.—W. A. Fairbanks, 30 Vesey St., New York, N. Y.

Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 11-13, 1941, Palmer House, Chicago, Ill.

Construction and Maintenance Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 11-13, 1941, Palmer House, Chicago, Ill.

Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill.

Signal Section.—R. H. C. Balliet, 30 Vesey St., New York, N. Y.

Mechanical Division.—V. R. Hawthorne, 59 E. Van Buren St., Chicago, Ill. Annual meeting, June 19-20, 1941, Hotel Jefferson, St. Louis, Mo.

Electrical Section.—J. A. Andreucetti, 59 E. Van Buren St., Chicago, Ill.

Purchases and Stores Division.—W. J. Farrell, 30 Vesey St., New York, N. Y.

Freight Claim Division.—Lewis Pilcher, 59 E. Van Buren St., Chicago, Ill.

Motor Transport Division.—George M. Campbell, Transportation Bldg., Washington, D. C.

Car-Service Division.—E. W. Coughlin, Transportation Bldg., Washington, D. C.

Finance, Accounting, Taxation and Valuation Department.—E. H. Bunnell, Vice-President, Transportation Bldg., Washington, D. C.

Accounting Division.—E. R. Ford, Transportation Bldg., Washington, D. C. Annual meeting, 1941, Denver, Colo.

Treasury Division.—E. R. Ford, Transportation Bldg., Washington, D. C. Annual meeting, 1941, Colorado Springs, Colo.

Traffic Department.—A. F. Cleveland, Vice-President, Transportation Bldg., Washington, D. C.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—F. L. Johnson, Claim Agent, Alton R. R., 340 W. Harrison St., Chicago, Ill. Annual meeting, June 11-13, 1941, Browne Palace Hotel, Denver, Colo.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—R. Y. Barham, Armco Railroad Sales Company, 310 South Michigan Ave., Chicago, Ill. Meets with American Railway Bridge and Building Association.

CANADIAN RAILWAY CLUB.—C. R. Crook, 4415 Marcil Ave., N. D. G., Montreal, Que. Regular meetings, second Monday of each month except June, July and August, Windsor Hotel, Montreal, Que.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS, MO.—J. J. Sheehan, 1101 Missouri Pacific Bldg., St. Louis, Mo. Regular meetings, third Tuesday of each month, except June, July and August, Hotel De Soto, St. Louis, Mo.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—Frank Kartheiser, Chief Clerk, Mechanical Dept., C. B. & Q., Chicago, Ill. Annual meeting, September 22-24, 1941.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—G. K. Oliver, 8238 So. Campbell Ave., Chicago, Ill. Regular meetings, second Monday of each month, except June, July and August, La Salle Hotel, Chicago, Ill.

CENTRAL RAILWAY CLUB OF BUFFALO.—Mrs. M. D. Reed, 1817 Hotel Statler, McKinley Square, Buffalo, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—J. T. Bougher, 424 W. 33rd St. (11th floor), New York, N. Y.

INTERNATIONAL RAILWAY MASTER BLACKSMITHS' ASSOCIATION.—W. J. Mayer, Michigan Central R. R., Detroit, Mich.

LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.—J. E. Goodwin, Gen. Foreman, Loco. Dept., Missouri Pacific R. R., No. Little Rock, (P. O. Little Rock), Ark. Annual meeting, September 22-24, 1941.

MASTER BOILER MAKERS' ASSOCIATION.—A. F. Stiglmeier, 29 Parkwood St., Albany, N. Y. Annual meeting, September 22-24, 1941.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Clyde S. Bailey, New Post Office Bldg., Washington, D. C. Annual meeting, December 10-12, 1940, Miami-Biltmore Hotel, Miami, Fla.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. H. White, Room 1826, 208 S. La Salle St., Chicago, Ill. Exhibit in connection with A. R. E. A. Convention, March 10-13, 1941, International Amphitheatre, Chicago, Ill.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Touraine, Boston, Mass.

NEW YORK RAILROAD CLUB.—D. W. Pye, 30 Church St., New York, N. Y. Regular meetings, third Thursday of each month, except June, July, August, September and December, 29 W. 39th St., New York, N. Y. Annual dinner, December 12, 1940, Hotel Commodore, New York, N. Y.

PACIFIC RAILWAY CLUB.—William S. Wollner, P. O. Box 3275, San Francisco, Cal. Regular meetings, second Thursday of each alternate month, at Palace Hotel, San Francisco, and second Friday of each alternate month, at Hotel Hayward, Los Angeles.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middleton, First National Bank Bldg., Chicago, Ill.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 1647 Oliver Bldg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRIC SUPPLY MANUFACTURERS' ASSOCIATION.—J. McC. Price, Allen-Bradley Company, 600 W. Jackson Blvd., Chicago, Ill.

RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—T. Duff Smith, Room 811, Utilities Bldg., 327 S. La Salle St., Chicago, Ill. Annual meeting, September 22-24 1941

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 1647 Oliver Bldg., Pittsburgh, Pa.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with Telegraph and Telephone Section of A. A. R.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 903 Syndicate Trust Bldg., St. Louis, Mo.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—F. O. Whiteman, Room 332, Dearborn Station, Chicago, Ill. Annual meeting, September 16-18, 1941, Hotel Stevens, Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with A. A. R. Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E. Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—D. W. Brantley, C. of Ga. Ry., Savannah, Ga. Annual meeting, January 23, 1941, Mobile, Ala.

TORONTO RAILWAY CLUB.—D. M. George, P. O. Box 8, Terminal "A," Toronto, Ont. Regular meetings, fourth Monday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

TRACK SUPPLY ASSOCIATION.—Lewis Thomas, Q. and C. Company, 59 E. Van Buren St., Chicago, Ill.

UNITED ASSOCIATIONS OF RAILROAD VETERANS.—Roy E. Collins, 112 Hatfield Place, Port Richmond, Staten Island, N. Y.

WESTERN RAILWAY CLUB.—W. L. Fox (Executive Secretary), Room 822, 310 South Michigan Ave., Chicago, Ill. Regular meetings, third Monday of each month, except June, July, August and September, Hotel Sherman, Chicago, Ill.

Construction

ATCHISON, TOPEKA & SANTA FE.—A contract for the construction of a single-track bridge over Huntington Drive and a pedestrian subway in Arcadia, Cal., amounting to approximately $220,200 has been awarded J. E. Haddock, Ltd., Pasadena, Cal., by the California Department of Public Works. The bridge will consist of a 126-ft. steel plate girder span on concrete abutments with spread footings. The grade line of the railroad will be raised and a pedestrian subway, necessitated by the raise of the railroad grade, will be constructed under the tracks near Fifth avenue.

BOSTON & MAINE.—Contract has been awarded to T. Stuart & Son Co., Watertown, Mass., for alteration and relocation of company's tracks at Royalston, Mass., necessitated by construction of Birch Hill Flood Control Dam by the Federal Government.

CHESAPEAKE & OHIO.—This company has asked the Interstate Commerce Commission to extend from December 31, 1940, to December 31, 1942, the time within which it may construct 6.6 miles of line in Boone County, Ky. The proceeding is docketed as Finance Docket No. 11917.

ILLINOIS CENTRAL.—The U. S. Engineer's office at Vicksburg, Miss., has awarded a contract amounting to $721,769 to Robinson & Young, Baton Rouge, La., for the relocation of about 3½ miles of the Illinois Central and Mississippi state highway No. 7 across the Sardis reservoir about 11 miles north of Oxford, Miss. The complete project will consist of raising and relocating the Illinois Central tracks and the state highway in the vicinity of Malone, Miss., on a common embankment having a maximum height above the valley floor of about 30 ft. Some of the principal quantities included in this work include 955,000 cu. yd. of excavation, 760,000 cu. yd. of rolled fill, lay and ballast, 14,000 lin. ft. of main line and 1,000 lin. ft. of side track, construct 1,675 lin. ft. of railroad trestle and 380 lin. ft. of railroad truss spans and place 2,050 cu. yd. of concrete in piers for the truss spans. In addition to this work, the railroad will raise the track and drainage structures for a short distance north of the relocation, construct temporary run-offs and connections, dismantle and match mark the existing railroad steel truss spans, construct a temporary bridge to carry the railroad traffic until the relocation is completed and temporarily relocate the telegraph wires.

LONG ISLAND.—Contract has been awarded Charles F. Vachris, Inc., Brooklyn, N. Y., for construction work in connection with the Rockaway Beach grade crossing elimination, 54th Street to Mott Avenue, at estimated cost of $2,799,000.

LONG ISLAND.—Contract has been awarded Arthur A. Johnson Corporation and Necaro Company, Inc., Long Island City, for work in connection with the Atlantic avenue improvement, Section 6, Georgia avenue to Schenck avenue, and Section 5, Schenck avenue to Montauk avenue, New York City, at estimated cost of $1,197,500.

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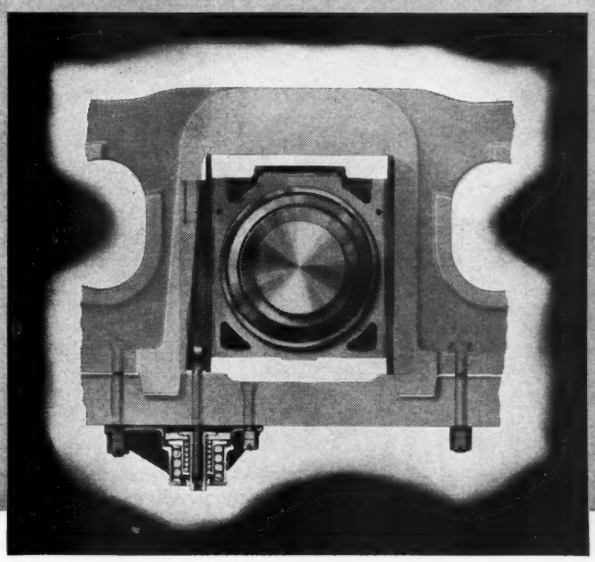
AIR GAP

means higher maintenance

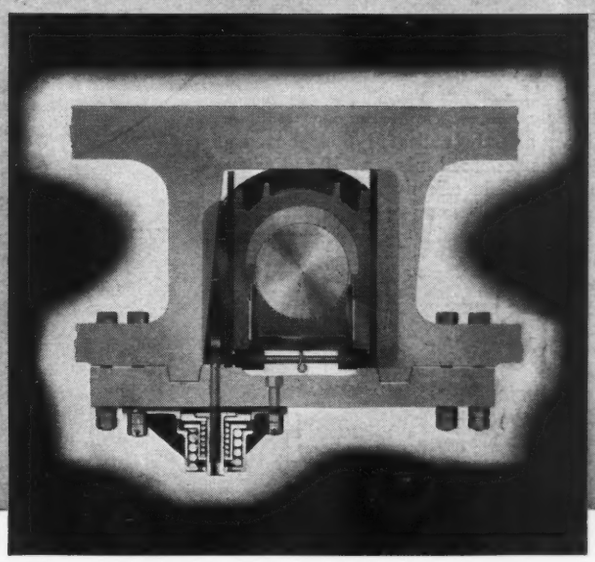
ELIMINATE IT WITH

FRANKLIN

AUTOMATIC COMPENSATORS AND SNUBBERS



Franklin Automatic Compensator and Snubber for Roller Bearing Driving Box application.



Franklin Automatic Compensator and Snubber for Friction Bearing Driving Box application.

With the hand-adjusted driving box wedge allowance must be made for temperature changes. This means that, until such time as the box expands to running speed temperature, the driving box pounds, and pounding driving boxes cost money. » » » There is no air gap on a locomotive equipped with Franklin Automatic Compensators and Snubbers. A constant, accurate fit is maintained and expansion and contraction due to changes in driving box temperature are taken care of *automatically*. These close tolerances are essential on roller bearing driving box applications. » » » Reduce maintenance . . . protect your driving boxes with Franklin Automatic Compensators and Snubbers, and eliminate slack between engine and tender with its twin, the E-2 Radial Buffer.

The close tolerances essential to efficient Booster operation call for genuine repair parts made by Franklin.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

Supply Trade

American Car & Foundry Units to Merge

Directors of the Brill Corporation and the American Car & Foundry Motors Co., units of the American Car & Foundry Co., have called special meetings of the stockholders to be held on January 8, 1941, to consider and act on a proposed plan for the merger of these two companies and re-arrangement of the capital structure of the surviving company, the Brill Corporation. Companies are engaged in the manufacture and sale of street railway cars and motor buses. It is proposed that the assets and liabilities of the various subsidiaries of the two companies other than the Hall-Scott Motor Car Company, a gasoline motor manufacturing subsidiary of the American Car & Foundry Motors Co., will be assumed by the Brill Corporation and that the stock of the Hall-Scott Motor Car Company, freed from a pledge for indebtedness to American Car & Foundry Co., will become the property of the Brill Corporation. Holders of a large percentage of the publicly held stock of the two companies have already indicated their concurrence in the proposed merger. If and when the plan is made effective, the Brill Corporation will become an operating company with its manufacturing activities centered in Pennsylvania, and through its holding of Hall-Scott Motor Car Company stock, also a holding company.

E. E. Moore has been elected vice-president, industrial relations, of the **Carnegie-Illinois Steel Corporation,** succeeding **D. A. Barret,** who retired December 1. **S. M. Jenks,** formerly assistant general superintendent of the Gary, Ind., Works, has been appointed general superintendent at Gary to succeed Mr. Moore.

In the *Railway Age* of December 7, page 881, in announcing the election of **Alexander D. Bruce** as executive vice-president of the **Vapor Car Heating Company, Inc.,** Chicago, and the election of **Otis A. Rosboro** as secretary of the company, the names under the portraits of Messrs. Bruce and Rosboro were reversed—so that the portrait of Mr. Bruce was identified as Mr. Rosboro, and vice versa. These portraits are herewith re-published, with the correct name under each—and with our sincere apologies to both gentlemen.

Alexander D. Bruce

Mr. Bruce has heretofore been vice-president and secretary of the company, and Mr. Rosboro has served it in the capacities of assistant treasurer and as a director.

Otis A. Rosboro

OBITUARY

William Miller, chairman of the board of the Pyle-National Company, Chicago, died in that city on December 4, after a long illness. Mr. Miller was born at Hannibal, Mo., on July 3, 1867, and entered railway service as an apprentice in the Hannibal shops of the Chicago, Burlington & Quincy in June, 1882. From 1885 to 1889, he served as a journeyman on the Missouri-Kansas-Texas, the Wabash and the Denver & Rio Grande Western. In the latter year, he was appointed foreman of shops on the St. Louis San Francisco, and in 1900 became general foreman of the Colorado Midland. In 1904-05, he was master mechanic of the Terminal Railroad Association and the Wiggins Ferry of St. Louis, and for two years was master mechanic and assistant superintendent of the Denver & Rio Grande Western. In 1907, he became superintendent of motive power for the Western Maryland and in 1908 resigned to become vice-president of the Adreon Manufacturing Company. Three years later he was elected president of the Monarch Pneumatic Tool Company and vice-president of the Standard Railway Equipment Company, from which position he resigned in 1913 to become vice-president of the Pyle-National Company. In 1914, he was elected senior vice-president, on August 2, 1934, president, and in March, 1938, chairman of the board.

William Miller

Wilbert J. Austin, president of the Austin Company, Cleveland, Ohio, was killed at Chicago on December 4, when a commercial transport plane in which he was riding crashed while landing.

Equipment and Supplies

Large Equipment Markets Seen In Argentina

The Republic of Argentina was indicated as one of the largest potential markets for railway equipment in a current survey of the United States Department of Commerce. During recent years Argentine imports of railway equipment have advanced rapidly, at least until the outbreak of hostilities in Europe, with the United Kingdom the single largest supplier. British capital investments control some 65 per cent of the total rail mileage of the country. However, it is believed that because of conditions abroad purchases in the United States may be considerably accelerated. The current rapidly expanding railway network of the Argentine State railways is particularly interesting to American railway equipment companies, as state railway purchases are made entirely through public bids. Expansion of the state railways system appears necessary for the development of the country's natural resources. Furthermore, recently enacted contracts between the government and specialty companies for installation of modern types of signaling and air brake equipment, together with the introduction of air-conditioning of passenger services indicates a decided trend toward modernization. However, one of the chief competitive factors relating to American suppliers has been the liberal credit terms quoted by foreign manufacturers and this remains a situation which must be faced by American equipment companies seeking business in this market.

LOCOMOTIVES

THE YOUNGSTOWN SHEET & TUBE CO. has ordered one steam switching locomotive from the Heisler Locomotive Works.

THE PHELPS DODGE CORPORATION has ordered nine electric freight locomotives from the Baldwin Locomotive Works.

THE REPUBLIC STEEL CORPORATION has ordered two 340-hp. Diesel-mechanical locomotives from the Fate-Root-Heath Company. This is in addition to one from the Fate-Root-Heath Company and one from

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No. 132 OF A SERIES OF FAMOUS ARCHES OF THE WORLD

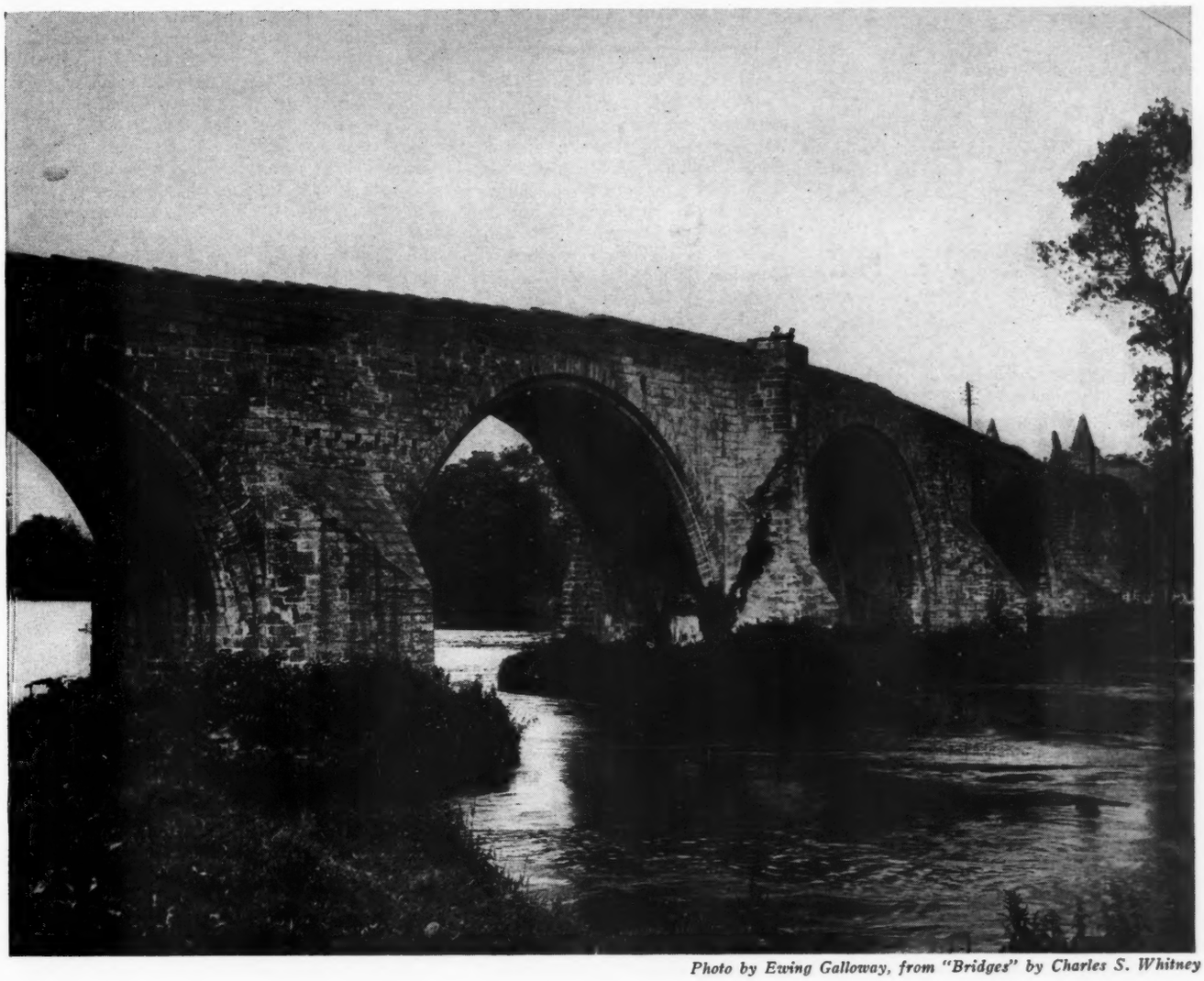


Photo by Ewing Galloway, from "Bridges" by Charles S. Whitney

OLD BRIDGE AT STIRLING

SCOTLAND

One of the finest examples of Norman architecture is the old bridge at Stirling, Scotland. The massive piers are nicely proportioned and the semi-circular arch rings are double the upper ring projecting beyond the lower to gain width for the bridge. The spandrel walls of this bridge rise flush with the upper arch ring up to the top of the parapet without a break. An interesting point of this bridge is the coping which is constructed of stepped-up stones, instead of inclined, to follow the slope of the roadway.

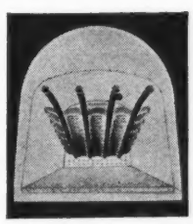
* * * * *

Like this old bridge, the Security Sectional Arch has been tested by time. For 31 years it has proved to be the most effective means of fuel conservation. While the basic design remains unchanged, it has been continuously developed by The American Arch Company in keeping with the progress in locomotive design and today is still an essential factor in the economical operation of modern steam motive power.

There's More to SECURITY ARCHES *Than Just Brick*

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.
Locomotive Combustion Specialists

the General Electric Company delivered earlier this year.

THE GULF, MOBILE & OHIO has ordered four 660-hp. Diesel-electric switching locomotives from the American Locomotive Company.

THE ARKANSAS VALLEY has received delivery of two 350-hp. Diesel-electric switching locomotives from the General Electric Company.

THE MISSISSIPPI EXPORT has received delivery of one 380-hp. Diesel-electric switching locomotive from the General Electric Company.

THE ATCHISON, TOPEKA & SANTA FE has ordered one 1,000-hp. Diesel-electric switching locomotive from the Baldwin Locomotive Works.

THE ST. LOUIS-SAN FRANCISCO has on order with company shops three 4-8-4 type passenger locomotives for delivery March, 1941, and five 4-8-2 type freight locomotives for delivery June, 1941.

THE UNITED STATES NAVY DEPARTMENT, Bureau of Supplies and Accounts, Washington, D. C., will receive bids to December 17 for one 50-ton Diesel-electric locomotive with two independent power plants.

THE BOSTON & MAINE has on order two 4-8-2 type freight locomotives with the Baldwin Locomotive Works. This is in addition to three freight locomotives reported as ordered from the Baldwin Locomotive Works in the *Railway Age* of September 21, page 422.

FREIGHT CARS

THE ALIQUIPPA & SOUTHERN has ordered 25 38-ft. 2-in. all steel gondola cars of 90 tons' capacity from company shops.

THE INTERNATIONAL NICKEL COMPANY of Canada has ordered 15 23-ft. steel ore cars of 70 tons' capacity from the National Steel Car Company.

THE ST. LOUIS-SAN FRANCISCO has on order 500 40-ft. 6-in. all steel box cars of 40 tons' capacity with company shops. This is in addition to 100 coal cars, 9 box cars, 1 automobile car and 10 cabooses constructed in company shops earlier this year.

IRON AND STEEL

THE DELAWARE, LACKAWANNA & WESTERN has ordered 5,000 tons of 131-lb. rail and accessories for delivery in April, 1941.

THE CHICAGO GREAT WESTERN has ordered 3,500 tons of rails, placing 3,000 tons with the Carnegie-Illinois Steel Corporation and 500 tons with the Inland Steel Company.

THE NEW YORK, NEW HAVEN & HARTFORD has ordered 10,000 tons of 131-lb. rail and 5,000 tons of 112-lb. rail plus accessories, dividing the order equally between the Carnegie-Illinois Steel Corporation and the Bethlehem Steel Company. Court authorization to purchase this equipment was reported in the *Railway Age* of November 16.

Financial

ATCHISON, TOPEKA & SANTA FE.—*Equipment Trust Certificates.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to assume liability for $10,000,000 of 1¼ per cent serial equipment trust certificates, maturing in 10 equal annual installments of $1,000,000 on December 5, in each of the years from 1941 to 1950, inclusive. The issue has been sold at 100.5437 to a group composed of Harriman Ripley & Co., Inc.; Blyth & Co., Inc.; Drexel & Co.; Goldman, Sachs & Co.; Alex. Brown & Sons; R. L. Day & Co.; and Washburn Company, making the average annual cost to the company approximately 1.15 per cent.

BALTIMORE & OHIO.—*New Director.*—Stewart McDonald, chairman of the board of the Maryland Casualty Company and deputy administrator of the Federal Housing Administration, has been elected a director of this road to succeed John F. Stevens, noted civil engineer who has resigned at the age of 87.

CANADIAN PACIFIC.—*Preferred Dividend.*—At a meeting of directors of this company a final dividend of 2 per cent has been declared on the preferred shares in respect of the year 1940, payable on February 1, 1941. Two per cent having been paid on October 1, the full rate of 4 per cent is being paid this year for the first time since 1931. Aime Geoffrion and L. J. Belnap have been elected directors, succeeding J. M. Wilson and Sir Charles Gordon, deceased.

CHESAPEAKE & OHIO.—*Operation.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to operate, under trackage rights, over a line of the Virginia Public Service Company, extending from Phoebus, Va., to Buckroe Beach, 2.3 miles.

DENVER & RIO GRANDE WESTERN-COLORADO & SOUTHERN.—*Abandonment, Construction and Joint Operation.*—The Denver & Rio Grande Western has been authorized by Division 4 of the Interstate Commerce Commission to abandon that portion of its Rouse branch extending from Mayne Junction, Colo., to Monson, 2.4 miles. At the same time these two companies have been authorized to construct and operate over, under a contract for joint use, 1,424 ft. of line at Monson, Colo., between the D. & R. G. W.'s Rouse branch and the main line of the C. & S.

DENVER & RIO GRANDE WESTERN.—*Equipment Trust Certificates.*—This company has asked the Interstate Commerce Commission for authority to assume liability for $1,260,00 of serial equipment trust certificates, maturing in 10 equal annual installments of $126,000 on February 1, in each of the years from 1942 to 1951, inclusive. The proceeds of the issue will be used as part payment for equipment costing a total of $1,698,110 and consisting of 500 50-ton, 40½ ft. box cars. The company has advertised for bids and received the highest bid of 100.5973 from Blyth & Co.

ERIE.—*Equipment Trust Certificates.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to assume liability for $3,000,000 of 1⅝ per cent serial equipment trust certificates, maturing in 20 equal semiannual installments of $150,000 on June 1 and December 1, in each of the years from 1941 to 1950, inclusive. The issue has been sold at 100.143 to a group composed of Mellon Securities Corporation, Lazard Freres & Co., Kidder, Peabody & Co., and E. W. Clark & Co., making the average annual cost to the company approximately 1.596 per cent.

LEHIGH & NEW ENGLAND.—*Equipment Trust Certificates.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to assume liability for $640,000 of 1⅞ per cent equipment trust certificates, maturing in the amount of $64,000 annually on December 15 in each of the years from 1941 to 1950, inclusive. The issue has been sold at 103.688 to Evans, Stillman & Co., making the average annual cost to the company approximately 1.16 per cent.

LOUISIANA & ARKANSAS.—*Joint Operation.*—This company has asked the Interstate Commerce Commission for authority to operate under trackage rights over 8,771 ft. of tracks of the St. Louis Southwestern and over 1,888 ft. of the bridge of the Shreveport Bridge & Terminal, all in Shreveport, La.

LOUISVILLE & NASHVILLE.—*Equipment Trust Certificates.*—A banking group headed by Halsey, Stuart & Co. of New York, has been awarded an issue of $6,770,000 of 1⅜ per cent equipment trust certificates of this road, Series I, maturing in ten annual equal installments December 15, 1941 to 1950, inclusive, on a bid of 100.309, with an interest cost to the railroad of approximately 1.32. The certificates were reoffered on December 2 at prices to yield from 0.25 per cent to 1.65 per cent, according to maturity.

NORFOLK & WESTERN-VIRGINIAN.—*Control of the Norfolk Terminal.*—These companies have been authorized by Division 4 of the Interstate Commerce Commission to acquire control of the Norfolk Terminal through ownership of its capital stock.

READING.—*New Director.*—Dr. W. A. Rigg of Reading, Pa., who has been a leader in the local transit industry in Pennsylvania, New Jersey and Delaware since 1913, was elected a director of the Reading on November 26.

ST. LOUIS SOUTHWESTERN.—*Abandonment by the Stephenville North & South Texas.*—The Interstate Commerce Commission has denied the recent petition of Berryman Henwood, trustee of the St. Louis Southwestern of Texas, asking that the commission permit him to immediately abandon operation of the Stephenville North & South Texas because of the fact that the road has no equipment, funds or personnel. On October 7, Division 4, acting on the protest of the City of Hamilton, Tex., extended indefinitely the effective date of an order authorizing the Stephenville and the St. Louis Southwestern of Texas,

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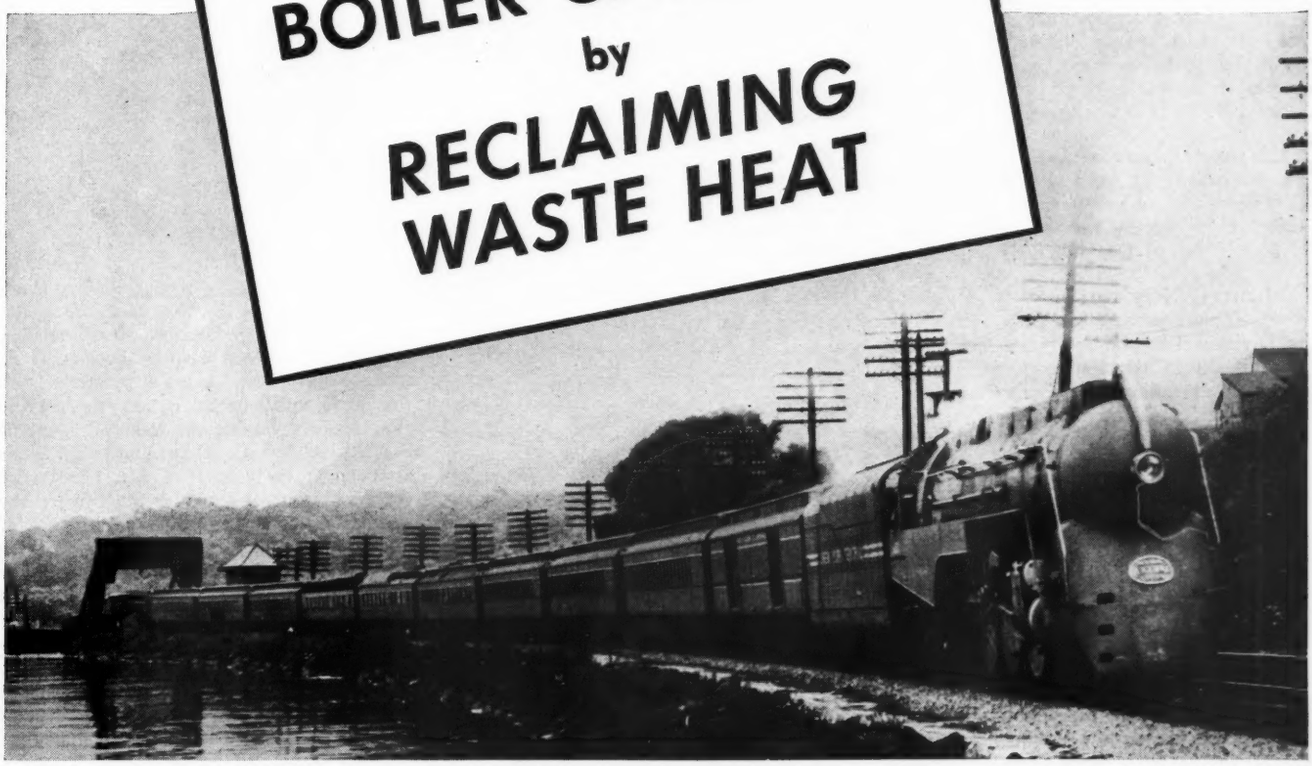
ADDED BOILER CAPACITY by RECLAIMING WASTE HEAT



Today, when locomotives are being taxed to the limit, it is profitable to have reserve steaming capacity available for all requirements—to pull heavier loads, to make hard grades, for train heating.

Any boiler capacity can be increased just by reclaiming and utilizing waste heat in exhaust steam. An Elesco feed water heater does this by transferring heat in exhaust steam back to the boiler through the feed water—thereby increasing the capacity of any locomotive boiler 12%—15%.

No cheaper, quicker, and easier maintained addition can be made to a boiler than to apply an Elesco feed water heater.

IT PAYS WHILE IT SAVES.

ELESCO

SUPERHEATERS • FEEDWATER HEATERS
AMERICAN THROTTLES • STEAM DRYERS
EXHAUST STEAM INJECTORS • PYROMETERS

THE SUPERHEATER COMPANY

Representative of
AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK
122 S. Michigan Ave. CHICAGO
• • •
Montreal, Canada
THE SUPERHEATER COMPANY, LTD.

respectively, to abandon the line extending from Gatesville, Tex., to Hamilton, 32.7 miles.

In his petition the trustee told the commission that it would be unfair to the Stephenville to force the St. Louis Southwestern of Texas to continue the operation of the line and charge the defict to the Stephenville's account.

SIERRA.—*Securities.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to modify $584,000 of its 40-year sinking fund income bonds by reducing the maximum rate of interest from five to three per cent for the years 1940 to 1943, inclusive.

UVALDE & NORTHERN.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon its entire line extending from Uvalde, Tex., to Camp Wood, 37.1 miles.

WICHITA NORTHWESTERN. — *Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon its entire line of railroad extending from Pratt, Kans., northwesterly to Vaughn, 74.5 miles, with branch lines from Junction, Kans., to Iuka, one mile, and from Trousdale, Kans., to Kinsley, 23.9 miles, a total of 99.5 miles.

Average Prices of Stocks and Bonds

	Dec. 10	Last week	Last year
Average price of 20 representative railway stocks..	29.79	29.82	31.84
Average price of 20 representative railway bonds..	60.88	59.92	58.25

Dividends Declared

Canadian Pacific.—Preferred, 2 per cent, payable February 1 to holders of record January 1.

Chesapeake & Ohio.—75¢, quarterly, payable January 1 to holders of record December 13; Extra, 62½¢, payable December 27 to holders of record December 13; Preferred, $1.00, quarterly, payable January 1 to holders of record December 13.

Lackawanna R. R. of New Jersey.—$1.00, quarterly, payable January 2 to holders of record December 12.

New York, Lackawanna & Western.—$1.25, quarterly, payable January 2 to holders of record December 12.

Philadelphia, Baltimore & Washington.—$1.50, semi-annually, payable December 31 to holders of record December 14.

West Jersey & Seashore.—$1.50, semi-annually, payable January 2 to holders of record December 14.

PRESSURE-CREOSOTED POLES.—The Wood Preserving Corporation, Pittsburgh, Pa. (a Koppers Company subsidiary), has published a 20-page booklet, Form G-15, entitled Pressure-Creosoted Poles, which discusses the comparative costs and life of treated and untreated poles and presents specifications on the production and treatment of creosoted poles and tables of weights, equivalent diameters, breaking loads, ultimate fibre stresses and recommended depths of embedment. Included among the specifications presented in the booklet are those for pole quality, before treatment, of Southern Yellow Pine poles, specifications for creosote and for the treatment, penetration and inspection of treated Southern Yellow Pine poles. The booklet also contains suggestions for unloading and field treatment. It is well illustrated with photographs of all stages of the production of creosoted poles.

Railway Officers

EXECUTIVES

W. O. Schock, vice-president of the Okmulgee Northern, with headquarters at St. Louis, Mo., has been appointed vice-president and general manager, with headquarters at Okmulgee, Okla., succeeding **E. J. O'Connor,** whose resignation to become general manager of the Associated Industries of Oklahoma was announced in the *Railway Age* of October 26. **D. H. Corbell,** secretary, assistant treasurer and auditor, has been appointed assistant general manager, with headquarters as before at Okmulgee.

Walter Reese, general manager of the Eastern Lakes department of the Railway Express Agency at Cleveland, Ohio, has been appointed vice-president and general manager of the Mississippi Valley department at St. Louis, Mo., succeeding

Walter Reese

Charles L. Chase, who retired on November 30, after some 50 years in express service. Mr. Reese began his career in June, 1901, as express clerk and telegraph operator at Owensboro, Ky., and after three years in these capacities he became an expressman, his first position being in the general agent's office of the American Express Company at Memphis, Tenn. During the following 13 years he served successively as route agent, chief clerk to superintendent, and secretary and assistant to the manager at St. Louis. In June, 1918, he was further promoted to assistant to the vice-president, which position he continued to hold through the various reorganizations of the company from which the Railway Express Agency was developed in 1929. In April, 1934, he was appointed general manager, at St. Paul, Minn., and on August 1, 1936, he was sent to New York as executive assistant. In August, 1937, Mr. Reese was appointed general manager of the Eastern Lakes department at Cleveland, the position he held until his recent appointment.

Mr. Chase entered the express business at St. Paul, Minn., in November, 1890, as stenographer. In 1910 he became assistant to the manager at Salt Lake City, Utah, becoming general agent at Denver three months later. In 1914 Mr. Chase served

Charles L. Chase

for four months as efficiency superintendent at Chicago and then went to Topeka, Kan., as superintendent, being transferred to Portland, Ore., in the next year. Four months later he became general agent at San Francisco, Cal. Returning to St. Louis as manager early in 1918, Mr. Chase was appointed general manager there when the express consolidation occurred in July of that year, holding that position through the entire regime of the American Railway Express and continuing with the Express Agency, when it replaced the predecessor company in March, 1929. Following a rearrangement of operating territory, Mr. Chase became vice-president and general manager of the Mississippi Valley department at St. Louis on October 1, 1932, the position he held until his retirement.

FINANCIAL, LEGAL AND ACCOUNTING

Frank J. Funk has been appointed district claim agent of the New York Central system, with headquarters at Buffalo, N. Y., succeeding **Charles C. Gleiner,** deceased.

H. M. DeGette, whose retirement on December 2 as freight claim agent of the Elgin, Joliet & Eastern, with headquarters at Chicago, was announced in the *Railway Age* of December 7, was born at Mills Corner, N. Y., on December 2, 1870, and entered railway service in 1890 with the Chicago, Burlington & Quincy, serving in various positions in the local freight office at Chicago until 1898, when he resigned to become an agent for the New York Life Insurance Company. A year later, he returned to the Burlington as a freight claim investigator and on October 1, 1900, he went with the E. J. & E., as a voucher clerk and investigator in the claim department. In 1907, Mr. DeGette was promoted to chief clerk in the claim department, and on October 15, 1909, he was advanced to freight claim agent, the position he held until his retirement.

Ralph H. Nold, whose promotion to freight claim agent of the Elgin, Joliet & Eastern, with headquarters at Chicago, was announced in the *Railway Age* of Decem-

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How to *Reduce* COSTLY *Delays* in your Increased Operating Tempo

The General Manager of a prominent railroad said recently in an address, "The way to inrease the *average* speed of trains between terminals (which is what shippers are interested in) is to pay as much attention to reducing delays as to securing high maximum speeds . . . Any increase in train speeds brought about by unavoidable delays, causes an unnecessary increase in the cost of operation". Editorial comment emphasized this point by citing an example. If a train that must average 45 miles an hour to maintain its schedule over a 100 mile run is delayed 20 minutes *on account of an air compressor failure*, ... the speed must be increased to 53 miles an hour during the entire run if all lost time is to be made up. . . . . .

Compressors will not fail if they are correctly lubricated and intake air is adequately filtered

Prevent AIR COMPRESSOR *Failures* with Proper Lubrication and CLEAN AIR

Mechanical Lubricator

Suction Filter

PROPER LUBRICATION is secured with the F-1 Mechanical Lubricator, which injects oil sparingly, regularly, uniformly. CLEAN AIR is assured by the G-1 Suction Filter, which precipitates heavy dirt particles and intercepts the finest dust. Moving parts are thereby kept working freely, air passages open, and valves tight.

Many leading railroads that were formerly experiencing costly delays on account of faulty compressor operation, or failure, are now getting highly satisfactory performance over the entire period between locomotive shoppings since they installed these two devices. In many cases the uninterrupted service life of compressors has thus been lengthened three to six times. Think what this would mean to YOU in reduced maintenance and delay costs!

WESTINGHOUSE AIR BRAKE COMPANY

WILMERDING PENNSYLVANIA

ber 7, was born at Leetonia, Ohio, on September 3, 1881, and attended business college. He entered railway service in October, 1894, on the Erie at Cleveland, Ohio, and later served the Lake Shore & Michigan Southern (now part of the New York Central), the Lake Erie & Western (now part of the Nickel Plate), and the Chicago, Indiana & Eastern (now part of the Pennsylvania), in various capacities, including those of switchman, brakeman, local office clerk and chief clerk to the auditor of the latter line at Muncie, Ind. In 1907, he went with the Chicago, Burlington & Quincy at Chicago, as an investigator in the freight claim department, and on February 1, 1914, he went with the freight claim department of the Chicago, Milwaukee, St. Paul & Pacific. Mr. Nold entered the service of the E. J. & E. in August, 1915, as a freight claim investigator, and on August 15, 1919, he was advanced to chief clerk of the freight claim department, the position he held until his promotion on December 2.

OPERATING

S. S. Mills has been appointed trainmaster on the Oregon division of the Union Pacific, with headquarters at Albina, Ore.

A. E. Parnell, superintendent of telegraph of the Colorado & Southern and the Fort Worth & Denver City, has been appointed superintendent of telegraph and signals of those lines, with headquarters as before at Denver, Colo., a change of title.

E. S. Buckmaster, superintendent of agencies of the Railway Express Agency at Chicago, has been appointed superintendent of the Commercial division at Chicago, in charge of all sales activities and the development of traffic in the Chicago department. The position formerly held by Mr. Buckmaster has been abolished.

D. B. McIntyre, assistant superintendent of the Ashland division of the Chicago & North Western, has been promoted to superintendent of that division, with headquarters as before at Antigo, Wis., succeeding **John Leppla,** who has retired. **J. R. Cantwell,** trainmaster at Huron, S. D., has been promoted to assistant superintendent at Antigo, replacing Mr. McIntyre, and **V. A. Ericson,** transportation inspector in the office of the general manager at Chicago, has been appointed trainmaster at Huron, relieving Mr. Cantwell.

Mr. Leppla was born at Medina, Wis., on February 25, 1871, and entered railway service on May 15, 1884, as a telegraph operator for the Milwaukee, Lake Shore & Western (now part of the North Western). In April, 1892, he was advanced to train dispatcher and later to chief dispatcher. In November, 1905, he was promoted to trainmaster and in June, 1908, he was advanced to assistant superintendent of the Black Hills division, later being transferred to the Galena division. Mr. Leppla was promoted to superintendent, with headquarters at Antigo, in June, 1918, where he remained until his retirement.

F. R. Doud, whose promotion to division superintendent on the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Ottumwa, Iowa, was announced in the *Railway Age* of November 30, entered railway service in 1907 as a caller on the Milwaukee at Mitchell, S. D., and in 1908

F. R. Doud

he became a telegraph operator at that point. Two years later he was promoted to train dispatcher at Mobridge, S. D. During the first World War, Mr. Doud served overseas in the U. S. Army, afterwards returning to the Milwaukee as chief dispatcher at Mobridge, and later serving in that capacity at Deer Lodge, Mont., Bellingham, Wash., and Miles City, Mont. On January 1, 1927, he was advanced to trainmaster at Sioux City, Iowa, and on October 17, 1932, he was promoted to assistant superintendent, with headquarters at La Crosse, Wis., the position he held until his recent promotion.

J. B. Jones, whose promotion to superintendent of the Indianapolis division of the Pennsylvania, with headquarters at Indianapolis, Ind., was announced in the *Railway Age* of November 23, was born at Danville, Ill., on March 22, 1905, and graduated in civil engineering from the University of Illinois in 1926. He entered railway service on July 1, 1926, as a rodman on the Chicago & Eastern Illinois and on April 1, 1927, he went with the Pennsylvania as

J. B. Jones

an assistant on the engineering corps of the Logansport division. On July 16, 1929, he was appointed assistant supervisor of track on the Cumberland Valley division, with headquarters at Chambersburg, Pa., later serving in that capacity on the Middle division, the Baltimore division and the Philadelphia division. Mr. Jones was promoted to track supervisor on the Williamsport division on February 20, 1934, being transferred to the Baltimore division, with headquarters at Washington, D. C., on June 1, 1934. On January 1, 1935, he was transferred to the New York division, with headquarters at New York, and was promoted to division engineer of the St. Louis division on January 16, 1939. On January 16, 1940, he was advanced to superintendent of freight transportation of the Central region, with headquarters at Pittsburgh, Pa., the position he held until his recent promotion.

R. R. Ripley, superintendent of organization of the Railway Express Agency at San Francisco, Cal., has been appointed superintendent of the St. Louis division at St. Louis, Mo., succeeding **Joseph G. Marston,** who retired on November 1. Mr. Ripley has been in the express business for over 37 years, starting as a driver at Topeka, Kan. Later he was a messenger and then agent at Lawrence and Saline, Kan. He went to St. Louis as route agent

R. R. Ripley

on August 1, 1911, becoming depot agent there a few months later. Two years afterward he was appointed agent and on August 1, 1918, became assistant superintendent of terminals at St. Louis. In August, 1932, Mr. Ripley was appointed superintendent of terminals and on January 1, 1939, was transferred to San Francisco, as superintendent of organization, the position he held until his recent appointment.

Mr. Marston entered express service as wagon boy on October 1, 1883, in Chicago, at the age of 12 years. After several years in Chicago he was transferred to Memphis and later to Baton Rouge, La. He served in supervisory capacities at Birmingham, Ala.; Cairo, Ill.; Kansas City, Mo., and St. Louis; and New Orleans, La. On September 16, 1914, he went to St. Louis as general agent, serving in that city for the remainder of his career. Mr. Marston became superintendent of the St. Louis division on July 1, 1918.

J. G. Shannon, whose appointment as general manager of the Mid-Central department of the Railway Express Agency

at Chicago was noted in the *Railway Age* of December 7, has been an expressman for some 41 years. Mr. Shannon was born on September 8, 1880, and first entered the

J. G. Shannon

express service with Wells, Fargo & Co. on October 17, 1899, beginning as a driver at Fayetteville, Ark. During the following 22 years he served in various capacities, including those of clerk, acting agent, cashier, acting chief clerk, acting route agent, route agent and special route agent. On September 1, 1911, he was appointed auditor of express receipts at Chicago and in the following year he was appointed special accountant at the same point. On January 1, 1913, he was named efficiency accountant, with the same headquarters, holding this position until August 1, 1916, when he was sent to New York as an analyst. After a year in the latter capacity he returned to Chicago as claim supervisor. On July 1, 1918, when the various railway express companies were consolidated to form the American Railway Express Company, Mr. Shannon was appointed superintendent of the bureau of organization at Chicago, holding this position until April, 1920, when he was appointed superintendent of the Central Illinois division at Chicago, continuing in this capacity when the Railway Express Agency was formed in 1929. Following a rearrangement of operating territories in April, 1931, he was placed in charge of the Western Illinois and Eastern Iowa divisions, at Chicago. On February 1, 1937, Mr. Shannon was sent to New York as superintendent of organization and chairman of the Standard Practices committee and returned to Chicago in July, 1937, to become assistant to vice-president in charge of the Central departments, the position he held until December 1, when he became general manager of the Mid-Central department.

TRAFFIC

A. P. Simon, freight representative on the Minneapolis, St. Paul & Sault Ste. Marie at Bismarck, N. D., has been promoted to general agent at that point, succeeding **L. K. Thompson.**

W. J. Ficht and **Daniel Makinson,** assistant to general passenger agents on the Seaboard Air Line, have been promoted to assistant general passenger agents, with headquarters as before at Norfolk, Va. **I. E. Morgan,** commercial agent, has been appointed district freight agent at St. Petersburg, Fla.

L. R. Schramm, city passenger agent for the Chicago, Burlington & Quincy at Chicago, has been appointed general agent at Philadelphia, Pa., succeeding **G. J. Smith,** who has resigned.

W. F. Rogers, district freight and passenger agent on the Southern at New Orleans, La., and **T. J. Garner,** foreign freight agent in that city, have been promoted to assistant general freight agents, with the same headquarters, two newly created positions.

ENGINEERING AND SIGNALING

Charles W. Pitts, division engineer on the Union Pacific, with headquarters at Denver, Col., has been promoted to assistant to the chief engineer, with headquarters at Omaha, Neb. **W. H. Lowther,** division engineer at Spokane, Wash., has been transferred to Denver, succeeding Mr. Pitts and **E. F. Kidder,** assistant engineer at Omaha has been appointed division engineer at Spokane, replacing Mr. Lowther.

Newton Wells McCallum, assistant chief engineer of the Pittsburgh & Lake Erie, with headquarters at Pittsburgh, Pa., has been appointed chief engineer, with the same headquarters, succeeding **Rudolf P. Forsberg,** whose retirement is noted elsewhere in these columns. A biographical sketch of Mr. McCallum's railway career was published in the *Railway Age* of November 2, in connection with his appointment as assistant chief engineer. **C. G. Stewart,** leading draftsman, has been appointed chief engineer, to succeed Mr. McCallum.

Rudolf P. Forsberg, chief engineer of the Pittsburgh & Lake Erie and its subsidiaries, retired from service on November 30, having reached the age of 70. Mr. Forsberg has occupied this position since

Rudolf P. Forsberg

July 1, 1931, when he succeeded the late A. R. Raymer. Mr. Forsberg was born at Lynchburg, Va., November 27, 1870. He attended the grammar and high schools at Lynchburg and later took a private technical course in Pittsburgh, Pa. He entered railroad service in June, 1887, as a rodman on the Lynchburg & Durham (now part of the Norfolk & Western). In 1888 he went in the same capacity to the Richmond & Danville (now part of the Southern), later being promoted to levelman and transitman. During the construction of the Yadkin division in 1890 and 1891 he was resident engineer, with office at Salisbury, N. C. In 1891 he took a position as draftsman in the office of an architect at Richmond, Va., but returned to railway service the following year as draftsman in the office of the engineer of maintenance of way of the Norfolk & Western at Roanoke, Va. In September, 1892, he went with the Pittsburgh & Lake Erie as draftsman in the office of the engineer maintenance of way at Pittsburgh, Pa., later being transferred to the office of the chief engineer in the same capacity. He was promoted to chief draftsman in March, 1899; was appointed assistant engineer in 1902, and was promoted to special engineer in July, 1919. On March 1, 1920, he was made principal assistant engineer, and since July 1, 1931, has been chief engineer of the Pittsburgh & Lake Erie, the Lake Erie & Eastern, the Pittsburgh, Chartiers & Youghiogheny and the Monongahela. An active member of the Railway Club of Pittsburgh, he was its president in 1935-36. He was president of the Pittsburgh Section of the American Society of Civil Engineers in 1937-38, and was chairman of the Civil Section of the Engineers' Society of Western Pennsylvania in 1927. Mr. Forsberg has also been active in civic affairs, serving as president of the Council of the Borough of Emsworth, Pa., for four years from January, 1918; during the following four years he was burgess of that borough.

MECHANICAL

The headquarters of **R. H. Marquart,** superintendent of the freight car department of the Illinois Terminal, have been transferred from Decatur, Ill., to St. Louis, Mo.

E. A. Shull, superintendent of motive power of the Wichita Falls & Southern, with headquarters at Wichita Falls, Tex., has retired, and the position has been abolished.

H. J. Cosgrove, general roundhouse foreman on the Chicago, Rock Island & Pacific at Silvis, Ill., has been promoted to master mechanic at Fairbury, Neb., succeeding **T. P. Maroney,** who has been transferred to Dalhart, Tex., replacing **R. E. Deitrich.** Mr. Deitrich has been transferred to Armourdale, Kan., relieving **G. W. Heyman,** who retired on December 1, after 34 years service.

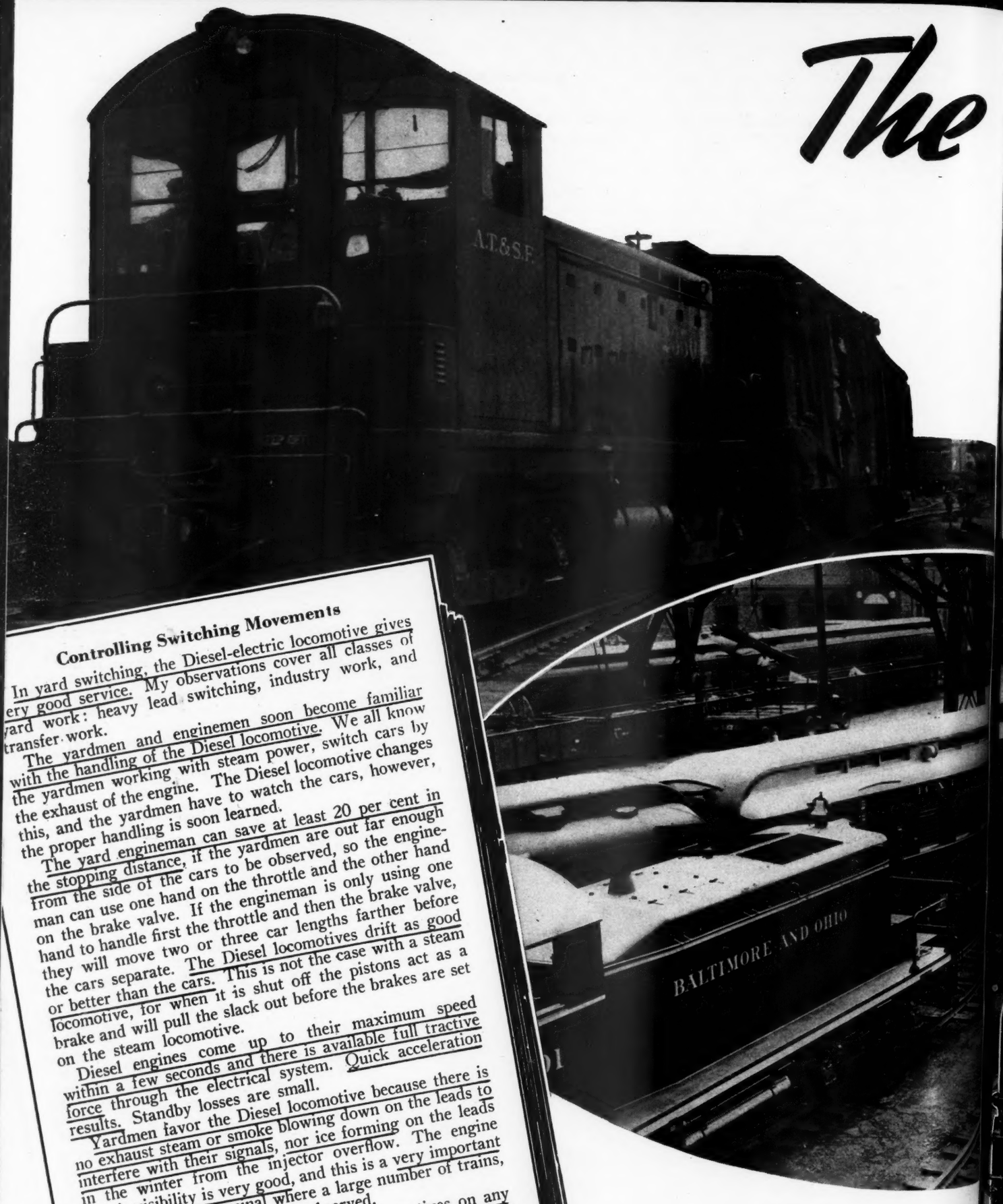
OBITUARY

Frank Carter, retired assistant treasurer of the Chicago & Illinois Midland, died on December 7, at the age of 80, at Springfield, Ill. Mr. Carter retired in 1932.

Anthony Douglas MacTier, former vice-president of the Eastern lines of the Canadian Pacific at Montreal, Que., died on December 6 at the age of 73. Mr. MacTier retired in December, 1932.

Table of Freight Operating Statistics appears on second left-hand page

The



Controlling Switching Movements

In yard switching, the Diesel-electric locomotive gives very good service. My observations cover all classes of yard work: heavy lead switching, industry work, and transfer work.

The yardmen and enginemen soon become familiar with the handling of the Diesel locomotive. We all know the yardmen working with steam power, switch cars by the exhaust of the engine. The Diesel locomotive changes this, and the yardmen have to watch the cars, however, the proper handling is soon learned.

The yard engineman can save at least 20 per cent in the stopping distance, if the yardmen are out far enough from the side of the cars to be observed, so the engineman can use one hand on the throttle and the other hand on the brake valve. If the engineman is only using one hand to handle first the throttle and then the brake valve, they will move two or three car lengths farther before the cars separate. The Diesel locomotives drift as good or better than the cars. This is not the case with a steam locomotive, for when it is shut off the pistons act as a brake and will pull the slack out before the brakes are set on the steam locomotive.

Diesel engines come up to their maximum speed within a few seconds and there is available full tractive force through the electrical system. Quick acceleration results. Standby losses are small.

Yardmen favor the Diesel locomotive because there is no exhaust steam or smoke blowing down on the leads to interfere with their signals, nor ice forming on the leads in the winter from the injector overflow. The engine crew's visibility is very good, and this is a very important factor in a busy terminal where a large number of trains, engines, and signals must be observed.

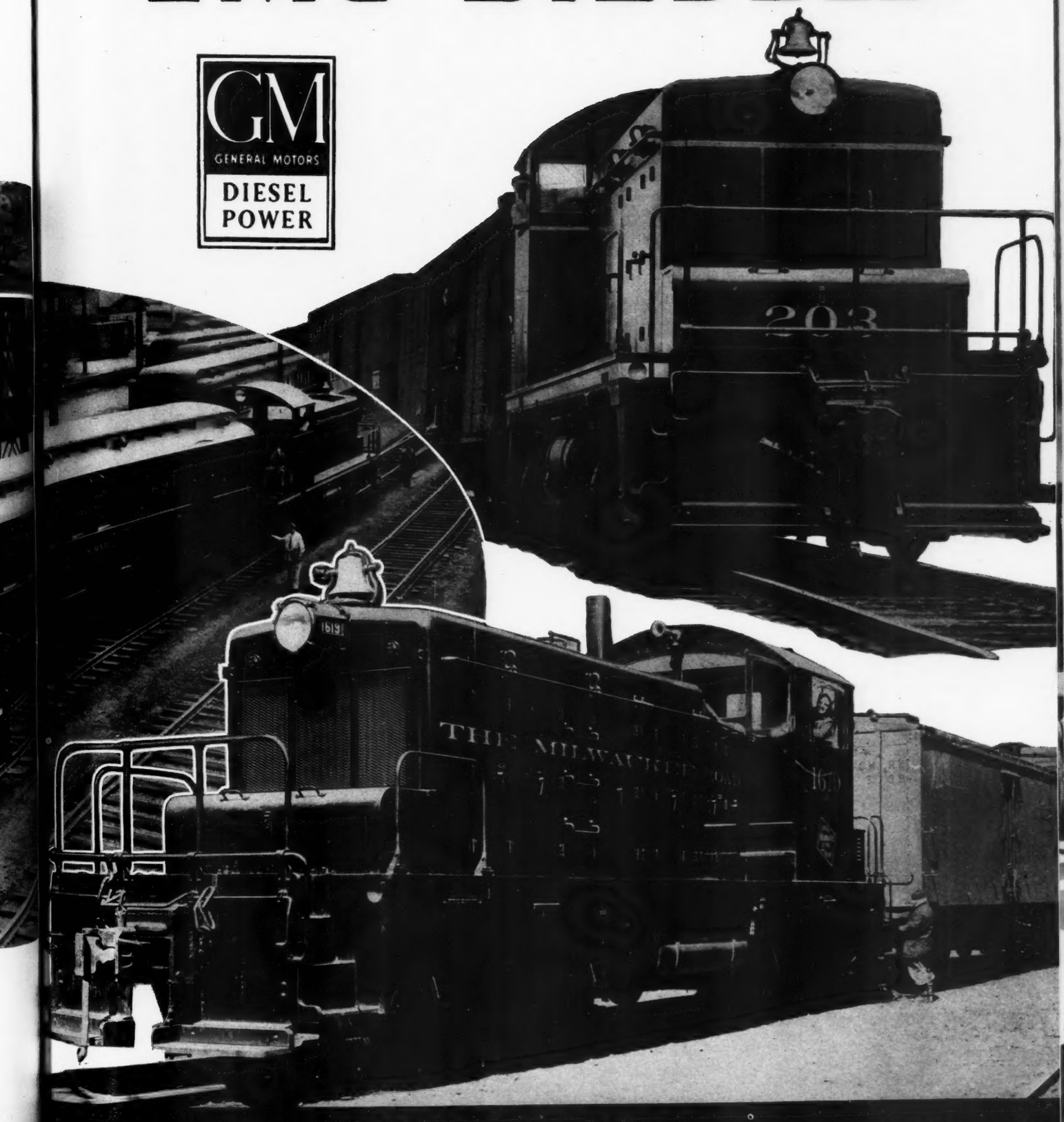
Yardmasters can place the Diesel locomotives on any job. There is no need to think of the wheel arrangement, or the road number when the smaller old industry tracks have to be pulled or a car spotted. The Diesel will go any place a freight car will clear. The Diesel locomotive will also make transfers, making it unnecessary for the yardmaster to wait until a certain type locomotive returns from another job to make the delivery. It will go out on a lead and give very good service. The Diesel locomotive is ideal yard power.

From Leo W. Powell's paper "The Road Foreman and the Diesel-Electric Locomotive" presented at the fourth annual meeting of the Railway Fuel and Traveling Engineers' Association.

Ideal Power . . . .

EMC DIESELS

GM
GENERAL MOTORS
DIESEL
POWER



ELECTRO-MOTIVE CORPORATION
SUBSIDIARY OF GENERAL MOTORS LA GRANGE, ILLINOIS, U. S. A.

Freight Operating Statistics of Large Steam Railways—Selected Items for the Month of September,

Region, road, and year		Miles of road operated	Train-miles	Locomotive-miles: Principal and helper	Locomotive-miles: Light	Car-miles: Loaded (*thousands*)	Car-miles: Per cent loaded	Ton-miles (*thousands*): Gross excluding locomotives and tenders	Ton-miles (*thousands*): Net revenue and non-revenue	Number of road locomotives on line: Serviceable: Not stored	Number of road locomotives on line: Serviceable: Stored	Number of road locomotives on line: Unserviceable	Number of road locomotives on line: Per cent unserviceable
New England Region:													
Boston & Albany	1940	362	134,229	138,132	9,799	2,999	67.5	171,108	63,400	47	11	27	31.8
	1939	362	131,172	135,193	9,146	3,022	69.5	167,588	62,260	53	6	29	33.0
Boston & Maine	1940	1,892	269,432	299,538	24,787	9,535	70.4	534,754	207,868	126	..	44	25.9
	1939	1,915	267,572	302,358	26,120	9,809	70.9	544,455	209,358	119	..	52	30.4
N. Y., New Hav. & Hartf.	1940	1,843	332,085	417,156	28,624	12,531	68.9	680,715	264,783	178	11	68	25.2
	1939	1,846	323,654	405,271	27,896	12,260	69.5	659,670	258,758	184	8	70	27.9
Great Lakes Region:													
Delaware & Hudson	1940	846	233,890	280,875	31,131	8,427	65.0	535,928	259,906	126	45	81	32.1
	1939	847	256,774	335,738	30,432	9,104	69.6	558,637	281,228	137	37	72	29.3
Del., Lack. & Western	1940	983	339,191	383,581	52,261	12,682	69.6	737,323	298,515	140	13	52	25.4
	1939	983	348,702	404,455	60,940	13,476	71.1	778,691	327,328	133	1	75	35.9
Erie (incl. Chi. & Erie)	1940	2,268	722,426	771,549	51,538	32,872	65.6	2,051,796	783,956	233	17	175	41.2
	1939	2,290	702,037	752,239	52,780	32,486	67.7	2,007,958	776,479	237	6	172	41.4
Grand Trunk Western	1940	1,023	219,028	222,095	1,559	6,990	63.8	430,852	158,684	72	7	19	19.4
	1939	1,023	234,694	236,701	2,417	6,894	66.1	410,235	151,770	71	..	32	31.1
Lehigh Valley	1940	1,252	320,294	352,280	55,041	13,200	68.0	829,450	367,651	117	4	95	44.0
	1939	1,265	310,054	345,660	54,901	13,573	67.8	844,030	370,378	114	..	110	49.1
New York Central	1940	10,563	2,661,499	2,831,183	176,587	94,454	61.5	6,415,616	2,787,621	882	122	369	26.9
	1939	10,608	2,600,769	2,785,550	183,983	93,460	62.2	6,308,426	2,752,336	933	55	447	31.1
N. Y., Chicago & St. Louis	1940	1,672	509,659	519,240	6,813	19,399	64.6	1,192,071	469,682	169	11	18	9.1
	1939	1,672	487,494	493,203	6,796	19,227	67.4	1,127,357	440,097	156	8	34	17.2
Pere Marquette	1940	2,080	337,962	346,197	6,961	9,531	62.1	622,971	249,962	114	6	37	23.6
	1939	2,081	342,293	352,290	6,749	9,897	65.8	620,250	252,769	116	2	38	24.4
Pittsburgh & Lake Erie	1940	233	86,231	89,154	....	3,595	62.8	309,750	179,935	35	8	22	33.8
	1939	233	74,470	76,910	20	3,416	62.7	299,549	176,331	35	2	28	43.1
Wabash	1940	2,397	555,595	568,015	12,000	18,615	65.7	1,112,481	405,733	131	26	107	40.5
	1939	2,397	551,021	562,166	12,970	18,562	69.7	1,075,597	404,098	132	11	127	47.0
Central Eastern Region:													
Baltimore & Ohio	1940	6,262	1,552,963	1,947,837	212,827	52,255	63.3	3,618,156	1,674,836	699	132	354	29.9
	1939	6,269	1,489,917	1,872,777	220,466	51,327	65.3	3,510,818	1,657,745	690	35	494	40.5
Central of New Jersey	1940	679	164,391	184,513	33,729	5,343	61.5	374,241	179,832	69	10	62	44.0
	1939	679	160,929	185,189	32,781	5,562	63.6	385,224	191,415	72	5	80	51.0
Chicago & Eastern Illinois	1940	925	165,088	165,380	3,082	4,381	66.6	272,348	116,785	58	..	33	36.3
	1939	927	158,700	158,832	2,685	4,436	70.7	266,118	117,878	48	3	40	44.0
Elgin, Joliet & Eastern	1940	390	109,983	110,956	1,245	2,912	59.3	228,308	113,627	57	..	21	26.9
	1939	390	94,689	96,132	1,719	2,423	60.1	186,696	90,817	60	3	19	23.2
Long Island	1940	375	26,989	28,297	16,323	287	52.2	21,565	8,004	34	8	6	12.5
	1939	375	24,264	25,461	15,766	273	51.4	21,039	8,210	36	3	9	18.8
Pennsylvania System	1940	9,966	3,123,053	3,755,649	440,270	121,927	62.1	8,529,320	3,919,835	1,332	99	759	34.7
	1939	9,998	2,722,102	3,357,273	411,318	115,394	65.0	7,774,510	3,613,557	1,168	16	1,074	47.6
Reading	1940	1,441	423,015	471,191	59,346	13,084	63.8	945,508	472,910	216	8	151	40.3
	1939	1,442	394,110	437,798	51,734	12,334	66.4	866,436	437,220	205	3	152	42.2
Pocahontas Region:													
Chesapeake & Ohio	1940	3,044	872,411	923,899	42,085	40,989	56.9	3,444,095	1,881,637	380	52	75	14.8
	1939	3,049	918,846	973,160	44,696	45,257	57.3	3,825,846	2,101,624	407	18	102	19.4
Norfolk & Western	1940	2,169	685,282	714,147	37,576	32,584	58.0	2,720,149	1,436,988	291	33	26	7.4
	1939	2,169	723,092	759,972	44,230	33,601	59.0	2,805,156	1,513,179	305	24	27	7.6
Southern Region:													
Atlantic Coast Line	1940	5,074	538,049	544,181	7,583	12,283	64.3	735,998	281,258	231	48	53	16.0
	1939	5,077	505,091	510,105	7,276	11,215	63.0	663,132	241,625	230	46	97	26.0
Central of Georgia	1940	1,831	259,154	261,550	3,648	5,854	74.2	320,006	129,070	97	..	23	19.2
	1939	1,838	250,149	251,333	3,143	5,710	74.7	308,522	124,832	94	..	26	21.7
Illinois Central (incl. Y. & M. V.)	1940	6,557	1,239,858	1,242,954	24,176	39,069	63.5	2,547,981	1,095,744	591	47	154	19.4
	1939	6,537	1,274,666	1,285,013	24,237	39,964	66.0	2,541,035	1,110,441	543	70	235	27.7
Louisville & Nashville	1940	4,862	1,110,279	1,204,887	32,076	28,804	60.6	2,038,674	987,504	350	41	78	16.6
	1939	4,897	1,121,689	1,213,329	32,815	30,180	62.1	2,119,118	1,045,448	336	4	200	37.0
Seaboard Air Line	1940	4,301	489,150	508,584	3,919	12,401	64.9	741,336	290,517	225	20	58	19.1
	1939	4,305	453,682	479,561	4,478	12,274	66.2	711,446	282,154	217	25	54	18.2
Southern	1940	6,548	1,401,854	1,428,259	21,042	33,312	68.1	1,931,184	791,457	490	..	150	23.4
	1939	6,586	1,353,022	1,374,245	20,736	32,701	70.0	1,853,637	764,600	489	5	157	24.1
Northwestern Region:													
Chicago & North Western	1940	8,319	921,060	963,733	18,027	29,409	62.4	1,914,483	764,634	330	21	247	41.3
	1939	8,326	920,911	946,569	21,967	28,717	64.6	1,804,525	703,566	329	43	292	44.0
Chicago Great Western	1940	1,447	258,485	260,444	8,304	8,019	62.8	506,004	187,393	69	2	17	19.3
	1939	1,450	270,183	273,906	8,699	8,351	63.8	514,516	187,807	70	..	15	17.6
Chi., Milw., St. P. & Pac.	1940	10,850	1,295,082	1,352,027	55,355	40,700	61.9	2,657,166	1,099,647	451	52	123	19.6
	1939	10,882	1,310,157	1,366,856	54,226	38,975	63.2	2,493,974	1,031,774	467	37	155	23.5
Chi., St. P., Minneap. & Om.	1940	1,619	229,132	240,791	10,751	5,614	66.2	351,955	145,410	104	18	12	9.0
	1939	1,619	227,995	238,074	10,782	5,607	69.1	341,621	157,496	112	13	13	9.4
Great Northern	1940	7,973	1,043,903	1,042,531	33,437	39,018	58.7	2,900,609	1,316,364	376	24	126	24.0
	1939	7,976	967,769	967,576	33,329	35,069	57.8	2,579,325	1,141,440	395	9	133	24.8
Minneap., St. P. & S. St. M.	1940	4,250	446,665	453,583	6,025	11,410	61.5	753,835	338,237	127	..	7	5.2
	1939	4,265	404,669	411,167	4,915	10,544	64.8	655,663	289,104	123	..	21	14.6
Northern Pacific	1940	6,422	773,954	817,325	48,112	27,758	64.2	1,771,912	745,135	344	23	74	16.8
	1939	6,423	732,945	780,218	44,529	25,364	65.5	1,597,206	673,193	345	8	89	20.1
Central Western Region:													
Alton	1940	914	196,621	210,550	1,065	4,596	63.7	290,718	111,280	61	7	18	20.9
	1939	914	221,563	239,832	1,557	5,209	67.7	325,307	130,534	60	10	18	20.5
Atch., Top. & S. Fe (incl. G. C. & S. F. & P. & S. F.)	1940	13,409	2,014,990	2,171,104	117,390	61,994	63.6	3,950,666	1,318,475	603	67	169	20.1
	1939	13,447	1,892,798	2,032,350	100,565	57,079	64.6	3,573,930	1,198,113	613	44	226	25.6
Chicago, Burl. & Quincy	1940	8,924	1,195,402	1,227,600	42,796	38,785	64.4	2,412,446	976,044	429	38	82	14.9
	1939	8,992	1,264,925	1,310,723	50,643	38,763	63.6	2,443,479	971,565	464	13	87	15.4
Chi., Rock I. & Pac.	1940	7,867	1,088,329	1,105,480	8,018	28,520	62.1	1,799,066	700,013	326	19	188	35.3
	1939	7,830	1,117,194	1,146,202	10,075	28,335	63.3	1,760,529	684,114	338	61	157	28.2
Denver & Rio Gr. Western	1940	2,554	369,382	413,796	49,565	10,921	63.8	703,210	279,032	159	16	15	7.9
	1939	2,555	380,589	427,403	51,553	10,504	62.9	675,908	261,489	167	7	14	7.4
Southern Pac.—Pac. Lines	1940	8,535	1,604,016	1,741,609	207,807	58,442	64.0	3,753,305	1,362,376	607	22	142	18.4
	1939	8,569	1,636,074	1,792,036	242,547	55,861	63.9	3,584,524	1,287,926	663	17	144	17.5
Union Pacific	1940	9,907	2,242,642	2,326,970	133,624	73,116	61.2	4,623,501	1,593,324	598	44	193	23.1
	1939	9,900	2,291,585	2,380,893	139,945	74,144	62.4	4,787,234	1,669,434	605	35	234	26.8
Southwestern Region:													
Mo.-Kansas-Texas Lines	1940	3,281	372,508	375,206	6,062	9,767	66.2	570,876	210,352	82	..	95	53.7
	1939	3,282	404,273	407,271	5,471	10,512	66.8	612,686	233,459	87	1	115	56.7
Missouri Pacific	1940	7,116	1,154,778	1,190,821	25,794	35,165	65.1	2,237,496	915,241	387	50	75	14.6
	1939	7,124	1,177,395	1,229,220	25,822	35,107	64.9	2,201,773	877,293	391	28	115	21.5
Texas & Pacific	1940	1,882	231,285	231,285	1,379	8,177	66.7	498,307	193,914	62	27	104	53.9
	1939	1,932	257,218	257,218	1,473	8,618	66.6	519,207	196,567	73	9	106	56.4
St. Louis-San Francisco	1940	4,735	659,172	673,374	9,337	15,423	64.4	967,781	393,908	280	44	32	9.0
	1939	4,784	719,257	726,402	9,505	16,081	65.0	977,728	392,751	261	44	34	10.0
St. Louis, San Francisco & Texas	1940	159	23,934	24,032	....	382	68.3	22,668	9,048	9	2	1	8.3
	1939	267	25,659	25,659	56	347	66.0	20,613	7,609	11	..	1	8.3
St. Louis Southw. Lines	1940	1,633	235,775	238,495	3,068	7,010	73.6	385,466	125,844	72	28	12	10.7
	1939	1,673	232,336	234,054	3,196	6,721	72.5	369,271	143,439	69	30	13	11.6
Texas & New Orleans	1940	4,415	611,004	611,027	6,544	15,528	67.0	960,314	381,377	209	9	46	17.4
	1939	4,415	574,540	574,552	3,803	14,598	67.5	888,460	352,636	216	12	48	17.4

1940, Compared with September, 1939, for Roads with Annual Operating Revenues Above $25,000,000

Region, road, and year	Number of freight cars on line: Home	Foreign	Total	Per cent unserviceable	Gross ton-miles per train-hour, excluding locomotives and tenders	Gross ton-miles per train-mile, excluding locomotives and tenders	Net ton-miles per train-mile	Net ton-miles per loaded car-mile	Net ton-miles per car-day	Car-miles per car-day	Net ton-miles per mile of road per day	Pounds of coal per 1,000 gross ton-miles, including locomotives and tenders	Locomotive-miles per locomotive-day
New England Region:													
Boston & Albany 1940	812	4,664	5,476	1.5	21,856	1,294	479	21.1	394	27.6	5,838	141	62.5
1939	1,008	4,706	5,714	2.2	20,962	1,303	484	20.6	384	26.8	5,733	150	58.9
Boston & Maine 1940	4,537	7,992	12,529	3.8	28,017	1,991	774	21.8	590	38.4	3,662	92	68.5
1939	5,037	8,412	13,449	5.1	27,548	2,044	786	21.3	550	36.3	3,644	90	68.8
N. Y., New Hav. & Hartf.... 1940	6,548	13,570	20,118	4.3	28,928	2,081	809	21.1	465	31.9	4,789	101	64.7
1939	5,325	14,793	20,118	7.3	28,596	2,071	813	21.1	455	31.0	4,672	95	62.8
Great Lakes Region:													
Delaware & Hudson 1940	8,020	4,001	12,021	3.9	35,415	2,305	1,118	30.8	734	36.6	10,241	109	43.6
1939	5,890	5,329	11,219	3.1	34,163	2,191	1,103	30.9	814	37.8	11,068	102	52.4
Del., Lack. & Western 1940	9,911	7,047	16,958	6.1	38,692	2,199	890	23.5	591	36.1	10,123	120	75.2
1939	8,766	9,024	17,790	10.4	39,061	2,263	951	24.3	613	35.5	11,100	117	77.7
Erie (incl. Chi. & Erie)..... 1940	12,823	16,837	29,660	2.9	49,278	2,864	1,094	23.8	893	57.1	11,522	86	71.4
1939	13,043	18,277	31,320	2.8	48,863	2,881	1,114	23.9	861	53.2	11,302	87	66.5
Grand Trunk Western 1940	4,177	7,660	11,837	6.8	36,838	1,974	727	22.7	449	31.0	5,171	85	83.4
1939	3,737	6,787	10,524	11.1	33,676	1,760	651	22.0	483	33.2	4,945	88	86.5
Lehigh Valley 1940	8,127	11,616	19,743	1.6	49,835	2,627	1,164	27.9	639	33.8	9,788	100	66.7
1939	7,859	11,346	19,205	2.0	50,699	2,755	1,209	27.3	689	37.2	9,760	99	62.9
New York Central 1940	77,738	62,656	140,394	11.6	40,035	2,429	1,055	29.5	646	35.6	8,797	91	82.4
1939	76,838	76,710	153,548	16.7	39,612	2,452	1,070	29.4	599	32.7	8,649	91	78.0
N. Y., Chicago & St. Louis... 1940	5,266	10,041	15,307	3.1	43,118	2,344	924	24.2	1,045	66.8	9,364	80	95.5
1939	4,485	8,878	13,363	3.3	42,008	2,319	904	22.9	1,083	70.1	8,774	80	91.4
Pere Marquette 1940	7,138	8,075	15,213	3.6	31,125	1,850	742	26.2	549	33.7	4,006	87	82.8
1939	7,043	9,005	16,048	3.6	30,212	1,818	741	25.5	534	31.8	4,049	85	83.9
Pittsburgh & Lake Erie..... 1940	11,052	6,426	17,478	25.6	46,769	3,600	2,091	50.1	335	10.7	25,742	70	51.3
1939	8,231	8,855	17,086	37.5	52,989	4,034	2,375	51.6	338	10.4	25,226	74	39.7
Wabash 1940	10,509	10,354	20,863	5.1	40,953	2,018	736	21.8	654	45.6	5,642	104	77.0
1939	11,428	11,713	23,141	12.0	39,294	1,967	739	21.8	560	36.9	5,619	102	75.1
Central Eastern Region:													
Baltimore & Ohio 1940	49,562	32,474	82,036	6.1	31,638	2,373	1,098	32.1	676	33.4	8,915	130	64.3
1939	46,167	34,045	80,212	16.1	31,603	2,396	1,132	32.3	683	32.4	8,815	124	61.9
Central of New Jersey..... 1940	6,928	12,154	19,082	11.4	29,556	2,419	1,162	33.7	321	15.5	8,828	118	66.1
1939	8,705	12,960	21,665	27.3	30,996	2,539	1,262	34.4	305	13.9	9,397	120	59.5
Chicago & Eastern Illinois... 1940	2,939	3,235	6,174	6.5	30,362	1,659	712	26.7	627	35.3	4,208	112	65.5
1939	2,995	3,396	6,391	6.0	29,106	1,680	744	26.6	626	33.3	4,239	108	62.0
Elgin, Joliet & Eastern..... 1940	9,410	6,072	15,482	4.3	18,751	2,128	1,059	39.0	237	10.3	9,712	107	69.0
1939	7,853	4,983	12,836	4.2	18,439	2,026	986	37.5	255	11.3	7,762	107	55.7
Long Island 1940	139	3,871	4,010	.6	6,200	819	304	27.9	73	5.0	711	307	45.7
1939	127	3,545	3,672	1.6	5,859	908	355	30.1	80	5.2	730	298	43.2
Pennsylvania System..... 1940	181,709	64,278	245,987	15.0	39,121	2,804	1,289	32.1	532	26.6	13,111	102	70.5
1939	182,264	61,805	244,069	21.5	40,934	2,921	1,358	31.3	484	23.8	12,048	99	61.6
Reading 1940	22,611	13,458	36,069	16.0	28,222	2,240	1,121	36.1	446	19.4	10,939	123	56.1
1939	24,106	14,163	38,269	25.2	28,205	2,209	1,115	35.4	386	16.4	10,107	120	50.7
Pocahontas Region:													
Chesapeake & Ohio..... 1940	40,821	14,368	55,189	1.7	57,849	3,988	2,179	45.9	1,138	43.5	20,605	65	70.6
1939	38,369	15,030	53,399	1.7	59,797	4,220	2,318	46.4	1,305	49.0	22,976	65	71.9
Norfolk & Western 1940	32,143	6,825	38,968	2.7	60,692	4,012	2,120	44.1	1,217	47.6	22,084	81	78.3
1939	28,741	6,804	35,545	2.8	59,469	3,927	2,118	45.0	1,386	52.2	23,255	82	81.1
Southern Region:													
Atlantic Coast Line 1940	12,707	7,813	20,520	16.1	23,709	1,371	524	22.9	449	30.5	1,848	106	58.6
1939	13,730	6,897	20,627	20.4	22,935	1,315	479	21.5	383	28.3	1,586	103	49.4
Central of Georgia 1940	3,586	3,906	7,492	2.3	24,389	1,242	501	22.0	575	35.1	2,350	115	80.3
1939	3,442	3,846	7,288	2.0	23,672	1,239	502	21.9	601	36.8	2,264	111	77.6
Illinois Central (incl. Y. 1940	25,778	21,602	47,380	3.7	32,947	2,090	899	28.0	794	44.6	5,570	108	57.5
& M. V.) 1939	22,872	23,190	46,062	1.8	30,387	2,008	878	27.8	829	45.2	5,662	114	56.2
Louisville & Nashville 1940	29,997	10,371	40,368	10.6	29,885	1,840	891	34.3	790	38.0	6,770	112	92.7
1939	31,427	10,714	42,141	23.5	29,627	1,893	934	34.6	805	37.4	7,116	111	81.2
Seaboard Air Line 1940	10,736	6,613	17,349	3.6	26,023	1,532	600	23.4	562	37.0	2,252	116	63.3
1939	9,714	6,488	16,202	4.3	25,969	1,579	626	23.0	598	39.3	2,185	112	60.3
Southern 1940	21,806	20,439	42,245	9.9	23,669	1,386	568	23.8	633	39.1	4,029	132	78.8
1939	21,719	18,850	40,569	11.9	23,791	1,380	569	23.4	625	38.2	3,870	129	74.5
Northwestern Region:													
Chicago & North Western.... 1940	32,695	24,771	57,466	7.7	31,507	2,142	855	26.0	447	27.5	3,064	104	59.4
1939	37,114	24,321	61,435	8.8	30,632	2,023	789	24.5	398	25.1	2,817	104	53.0
Chicago Great Western..... 1940	1,815	5,128	6,943	1.0	35,752	1,960	726	23.4	928	63.2	4,317	109	108.7
1939	1,821	4,669	6,490	1.2	35,066	1,906	696	22.5	981	68.3	4,317	115	115.2
Chi., Milw., St. P. & Pac.... 1940	38,637	22,197	60,834	2.9	33,324	2,063	854	27.0	596	35.6	3,378	108	83.0
1939	38,980	21,647	60,627	2.9	30,458	1,916	793	26.5	556	33.2	3,160	110	78.7
Chi., St. P., Minneap. & Om.. 1940	2,416	6,537	8,953	4.8	20,246	1,565	646	25.9	505	29.4	2,994	103	67.9
1939	2,985	6,461	9,446	8.4	19,591	1,523	702	28.1	558	28.8	3,243	103	64.5
Great Northern 1940	32,719	16,469	49,188	3.9	42,422	2,796	1,269	33.7	861	43.5	5,503	87	74.5
1939	35,895	13,883	49,778	5.0	39,103	2,683	1,187	32.5	730	38.8	4,770	92	67.8
Minneap., St. P. & S. St. M.. 1940	11,462	5,674	17,136	3.4	27,765	1,695	761	29.6	655	36.0	2,653	88	117.0
1939	11,155	5,076	16,231	5.0	25,898	1,627	717	27.4	577	32.4	2,260	89	98.7
Northern Pacific 1940	27,299	8,391	35,690	6.7	37,765	2,303	968	26.8	690	40.0	3,868	118	71.2
1939	28,534	7,409	35,943	10.3	33,410	2,190	923	26.5	608	35.0	3,494	128	68.4
Central Western Region:													
Alton 1940	1,770	5,652	7,422	6.0	37,716	1,485	568	24.2	514	33.3	4,058	122	88.4
1939	1,449	5,967	7,416	14.4	35,878	1,491	598	25.1	570	33.6	4,761	112	97.0
Atch., Top. & S. Fe (incl. G. 1940	63,341	12,994	76,335	8.9	39,549	1,966	656	21.3	563	41.6	3,278	108	96.3
C. & S. F. & P. & S. F.).. 1939	65,744	13,416	79,160	10.6	35,953	1,898	636	21.0	481	35.5	2,970	109	85.0
Chicago, Burl. & Quincy..... 1940	22,152	20,835	42,987	4.6	35,456	2,029	821	25.2	770	47.5	3,646	101	81.9
1939	24,807	19,290	44,097	6.4	33,471	1,940	771	25.1	742	46.5	3,602	106	86.4
Chi., Rock I. & Pac..... 1940	16,122	14,806	30,928	3.9	30,770	1,658	645	24.5	761	49.9	2,966	107	74.5
1939	15,470	14,522	29,992	4.9	28,030	1,579	613	24.1	753	49.2	2,912	112	73.8
Denver & Rio Gr. Western... 1940	10,104	5,197	15,301	3.3	31,489	1,911	758	25.6	601	36.9	3,642	147	87.0
1939	10,920	4,367	15,287	2.5	28,600	1,781	689	24.9	548	35.0	3,411	150	89.7
Southern Pac.—Pac. Lines... 1940	27,533	32,129	59,662	4.8	37,968	2,359	856	23.3	770	51.6	5,321	94	89.8
1939	29,736	31,024	60,760	5.4	35,025	2,207	793	23.1	722	49.0	5,010	98	90.4
Union Pacific 1940	33,543	26,298	59,841	5.8	45,900	2,077	716	21.8	899	67.4	5,361	112	101.3
1939	34,052	28,940	62,992	7.2	44,545	2,105	734	22.5	901	64.2	5,621	115	100.1
Southwestern Region:													
Mo.-Kansas-Texas Lines..... 1940	4,778	4,197	8,975	7.2	29,988	1,535	565	21.5	799	56.1	2,137	82	76.4
1939	4,382	4,894	9,276	4.5	28,932	1,517	578	22.2	882	59.5	2,371	82	73.2
Missouri Pacific 1940	13,937	20,317	34,254	2.6	35,158	1,949	797	26.0	901	53.2	4,287	105	85.3
1939	13,663	23,062	36,725	2.3	32,757	1,883	750	25.0	808	49.8	4,105	107	84.5
Texas & Pacific 1940	2,638	5,019	7,657	1.4	41,251	2,156	839	23.7	918	58.1	3,435	79	43.7
1939	2,392	5,608	8,000	1.7	35,867	2,024	766	22.8	864	56.9	3,391	83	50.6
St. Louis-San Francisco..... 1940	13,442	6,999	20,441	1.9	28,144	1,475	600	25.5	637	38.7	2,773	114	67.9
1939	12,295	7,213	19,508	3.9	26,192	1,362	547	24.4	641	40.4	2,737	118	77.4
St. Louis-San Francisco & 1940	...	334	334	2.7	18,843	952	380	23.7	887	54.8	1,897	127	67.9
Texas 1939	...	406	406	2.0	15,102	806	298	21.9	625	43.2	950	131	74.4
St. Louis Southw. Lines..... 1940	2,003	3,131	5,134	2.0	31,986	1,639	535	18.0	892	62.9	2,569	83	77.3
1939	1,768	3,955	5,723	2.3	28,628	1,591	618	21.3	892	57.6	2,858	86	77.2
Texas & New Orleans..... 1940	4,938	11,007	15,945	4.0	29,970	1,586	630	24.6	787	47.8	2,879	85	83.0
1939	5,642	11,008	16,650	4.0	28,474	1,561	619	24.2	715	43.9	2,662	83	74.9

Compiled by the Bureau of Statistics, Interstate Commerce Commission. Subject to revision.

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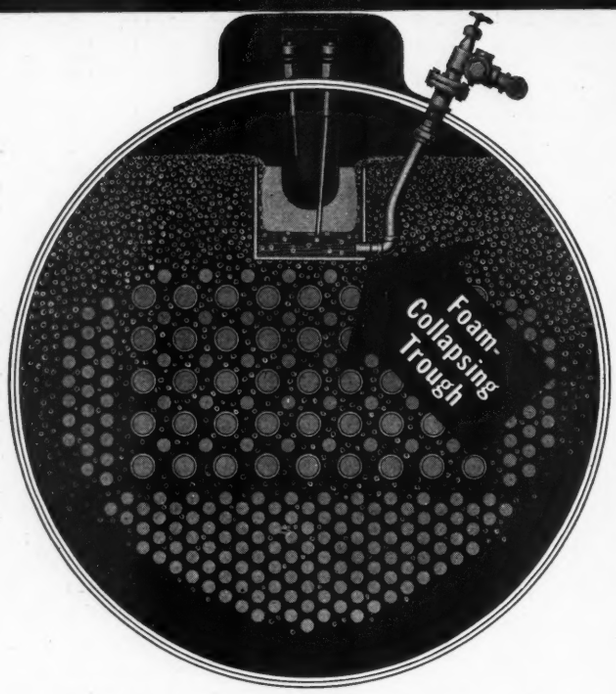

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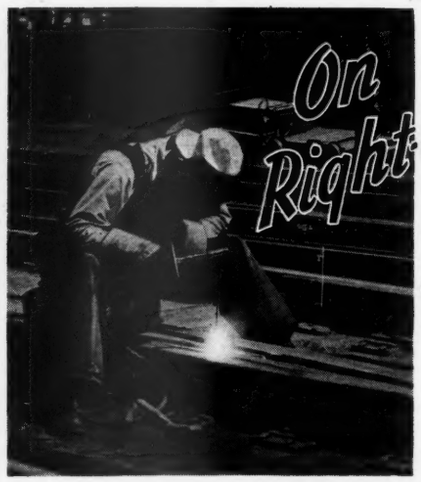

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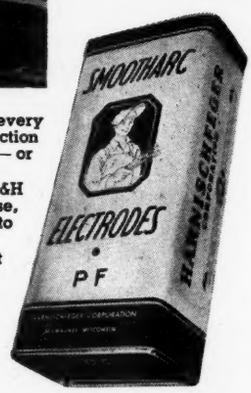

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